Tank™ GT14

B5180

Service Engineer's Manual

PREFACE

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Version 1.01

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Operation is subject to the following conditions:

1) This device may not cause harmful interference;
2) This device must accept any interference received including interference that may cause undesired operation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try one or more of the following measures:
   - Reorient or relocate the receiving antenna.
   - Increase the separation between the equipment and the receiver.
   - Plug the equipment into an outlet on a circuit different from that of the receiver.

Consult the dealer on an experienced radio/television technician for help.

Notice for Canada

This apparatus complies with the Class B limits for radio interference as specified in the Canadian Department of Communications Radio Interference Regulations. (Cet appareil est conforme aux norms de Classe B d'interference radio tel que specifie par le Ministere Canadien des Communications dans les reglements d'ineteference radio.)

Notice for Europe (CE Mark)
This product is in conformity with the Council Directive 89/336/EEC, 92/31/EEC (EMC).

CAUTION: Lithium battery included with this board. Do not puncture, mutilate, or dispose of battery in fire. Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by manufacturer. Dispose of used battery according to manufacturer instructions and in accordance with your local regulations.

About this Manual

This manual provides you with instructions on installing your Tank™GT14. This Manual is intended for experienced users and integrators with hardware knowledge of personal computers.

This manual consists of the following parts:

Chapter1:	Provides an introduction to the GT14 B5180 barebones, packing list, describes the external components, gives a table of key components, and provides block diagrams of the system.
Chapter2:	Covers procedures on installing the CPU, memory modules, a PCI Express card and hard drives.
Chapter3:	Covers removal and replacement procedures for pre-installed components.
Chapter 4:	Covers the contents of system BIOS.
Appendix I:	Listing the cable connection tables for reference of system setup.
Appendix II:	Covers procedures on installing the SMDC Card and reversing the GT14 chassis.
Appendix III:	Covers procedures on installing M2061 PCI-X Riser Card.
Appendix IV:	Covers instruction on detaching the LAN cable.
Appendix V:	Covers instruction on assembling the fan holders.

SAFETY INFORMATION

Before installing and using the Tank™GT14, take note of the following precautions:

- Read all instructions carefully.
- Do not place the unit on an unstable surface, cart, or stand.
- Do not block the slots and opening on the unit, which are provided for ventilation.
- Only use the power source indicated on the marking label. If you are not sure, contact the power company.
- The unit uses a three-wire ground cable, which is equipped with a third pin to ground the unit and prevent electric shock. Do not defeat the purpose of this pin. If you outlet does not support this kind of plug, contact your electrician to replace your obsolete outlet.
- Do not place anything on the power cord. Place the power cord where it will not be in the way of foot traffic.
- Follow all warnings and cautions in this manual and on the unit case.
- Do not push objects in the ventilation slots as they may touch high voltage components and result in shock and damage to the components.
- When replacing parts, ensure that you use parts specified by the manufacturer.
- When service or repairs have been done, perform routine safety checks to verify that the system is operating correctly.
- Avoid using the system near water, in direct sunlight, or near a heating device.
- Cover the unit when not in use.

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Chapter 1: Overview

1.1 About the Tank™ GT14 B5180

Congratulations on your purchase of the TYAN Tank™ GT14 B5180, a highly-optimized rack-mountable barebone system. The Tank™ GT14 B5180 is designed to support single Intel® Pentium® 4, Pentium® D and Core 2 Duo processors and maximum 4GB memory, providing a rich feature set and incredible performance. Leveraging advanced technology from Intel, the Tank™ GT14 B5180 server system is capable of offering scalable 32 and 64-bit computing, high-bandwidth memory design, and lightning-fast PCI-E slot implementation. The Tank™ GT14 B5180 not only empowers your company in today's demanding IT environment but also offers a smooth path for future application usage.

TYAN is also proud to deliver the Tank™ GT14 B5180 in SATAII flavor while supporting up to three (3) hard drives. The Tank™ GT14 B5180 uses TYAN's latest chassis featuring a robust structure and a solid mechanical enclosure. All of these provide the Tank™ GT14 B5180 the power and flexibility to meet the needs of nearly any server application.

1.2 Product Models

Model	HDD Bays	Hot-Swap Supported
B5180G14S3M	Internal, (3) HDDs	No

1.3 Features

Enclosure
- Industry 19” rack-mountable 1U chassis
- Support following HDD combination:
  – w/ bezel :
  (2) 3.5” HDD; (1) 2.5” HDD
  – w/o bezel:
  (1) 3.5” HDD; (1) 2.5” HDD
- Dimension:
  – w/ bezel :
  D15.5” x W17.2 x H1.71 inch
  (D394 x W436 x H43.8mm)
  – w/o bezel :
  D14.4” x W17.2 x H1.71 inch
  (D365 x W436 x H43.8mm)

Processors
- Single LGA775 Socket
- Support Intel® Pentium® 4, Pentium® D and Core 2 Duo processors: Cedar Mill / Presler / Conroe Processors
- FSB 533/800/1066

Chipset
- Intel Q965 (Broadwater) MCH --integrates Graphics
- ICH8
- SMSC SCH5027 Super I/O Chip
- SMSC EMC6D103HWM

Memory
- (2) 240-pin DDR2 DIMM sockets in dual channels
- Maximum of 4GB DDR2-533/667/800
- Supports non-ECC Memory only

Expansion Slots
- (1) standard height PCI-E card by riser card M2083-RS (default)
- Or (1) standard height PCI-X card by riser card M2061 (Optional)

Back I/O Ports
- Stacked PS/2 Mouse & Keyboard ports
- Stacked (4) USB 2.0 ports
- (1) 15-pin VGA port
- (1) 9-pin COM port
- (2) side-by-side RJ-45 10/100/1000ports

Front Panel Features
- I/O: (2) USB2.0 ports
- LED indicators
  – HDD active LEDs
  – Power LED
  – (2) LAN LEDs
  – ID LED
  – Warning LEDs
- Switches
  – Power
  – ID
- LED indicators

Integrated Storage Controller
- Support (4) SATAII ports, running at 3Gbps;

Storage
- Hard Disk Drives:

Support:
– (2) SATAII 3.5” HDDs;
– (1) SATAII 2.5” HDDs;

Networking
- (2) Intel 82573V GbE LAN controllers
  –Operating at PCI-E x 1 from ICH8
  –(2) Gigabit LAN ports in total

Motherboard
- TYAN Toledo i965R S5180 system board
- 9” x 7.5”

BIOS

- Award 8Mbit firmware hub
- Serial console redirect
- USB boot supported
- Supports APM1.2 and ACPI
- PnP, DMI, power Management
- S0/S1/S4/S5 states supported

Sever Management

- SMSC SCH5027 Super I/O Chip
- SMSC EMC6D103 HW monitor
- Thermal & voltage monitor support
- Multiple 4-pin fan monitoring headers
- PECI circuit for “Conroe” and the processor thermal monitoring
- TYAN SMDC M3291, IPMI v2.0 compliant Remote server management kit (option)

System Cooling

- (1) 12V, 40*40*28mm FANS
- (2) 12V, 40*40*56mm FANS
- passive CPU heatsink

Power Supply

- ESP 12V, 300W
- Universal 24-pin, 8-pin power connectors

Regulatory

- FCC Class B (Declaration of Conformity)
- CE (Declaration of Conformity)

Environment Temperature

- Operating temperature: 5°C ~ 35°C
- Non-operating temperature: -40°C ~ 70°C

1.4 Unpacking

If any items are missing or appear damaged, contract your retailer or browse to TYAN's website for service：
http://www.tyan.com

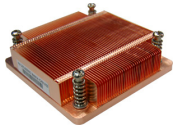
The Web site also provides information on other TYAN products, plus FAQs, compatibility lists, BIOS settings, and more.

1 x Tyan Barebone Drive CD

Power Cables
Left to right: Europe, US

HDD Screws

Barebone Manual



Heatsink x 1

LCD Bracket x 1

Cable Kit x 1

Mounting Ear Kit

Rail Kit

Rail Kit options: A, B, C

The following three rail kits are available to rackmount your GT14 B5180.

A. Rail for 4-post rack

Sliding Rails x 2
Sliding Brackets x 4 (Front L-Bracket x 2, Rear L-Bracket x2)
Mounting Brackets x 4
M4-4L screw x 18pcs
M5-8L screw x 10pcs
M5-15L screw x 4pcs

B. Rail for 3-post rack

Inner Rail Brackets x 2 (including screws)
Mounting Brackets x 2
M5-8L screw x 14pcs
M4-4L screw x 8pcs

C. Rail for 4-post rack

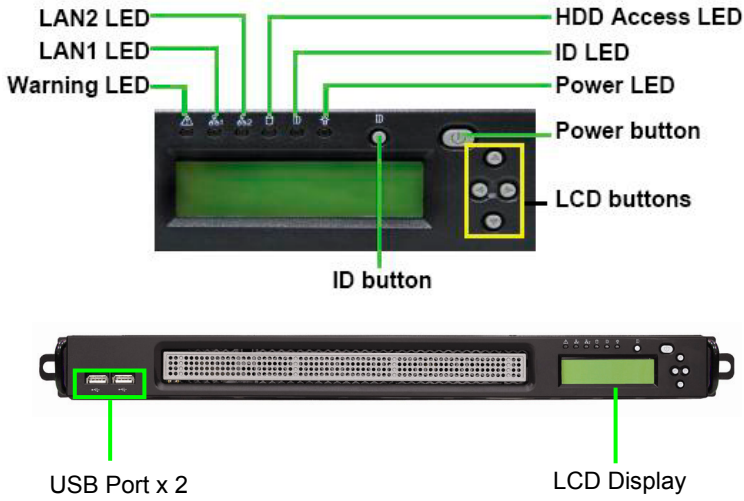
Inner Rails x 2
Post Slide Mount Adapters x 4
Assembled Outer Sliding Rails x 2
M4-4L screw x 30pcs
M5-8L screw x 10pcs
M5-15L screw x 4pcs

NOTE: For detailed information on rail kit of C, please contact our sales representative.

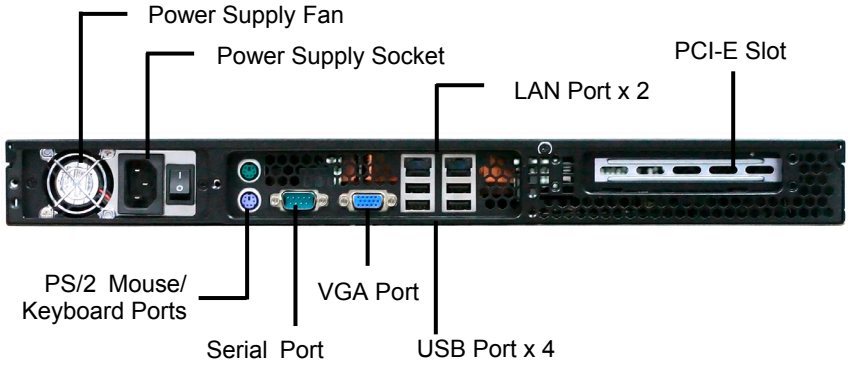
1.5 About the Product

The following views show you the product.

1.5.1 System Front View



1.5.2 System Rear View



1.5.3 LED Definition

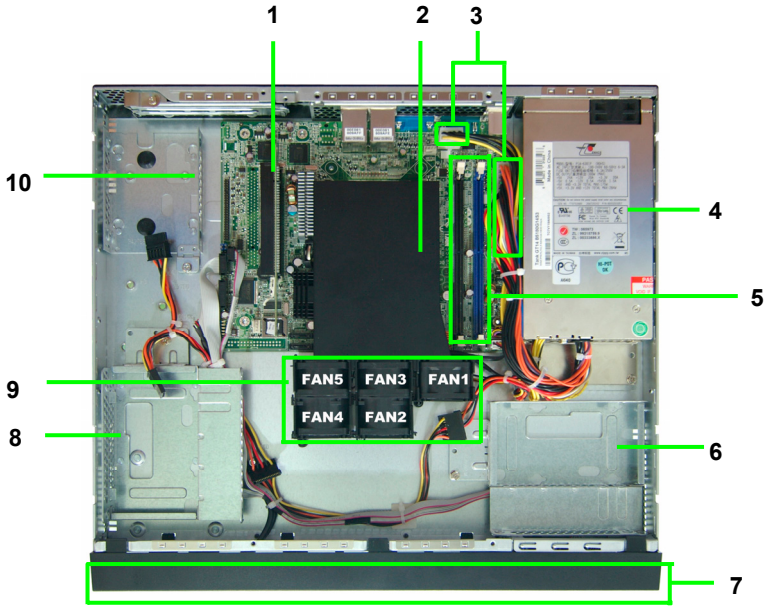
Front Panel

LED	Color	State	Description
Power	Green ——	ON OFF	Power ON Power OFF
HDD Access	Amber ——	Blinking OFF	HDD access No disk activity
LAN1/LAN2 Activity	Green Green ——	ON Blinking OFF	LAN Linked LAN Accessing No LAN linked
Warning	Red ——	ON OFF	System fails (fan fail/over voltage/over temperature) Normal
ID LED	Blue ——	ON OFF	System is identified System is not identified

Rear I/O LED

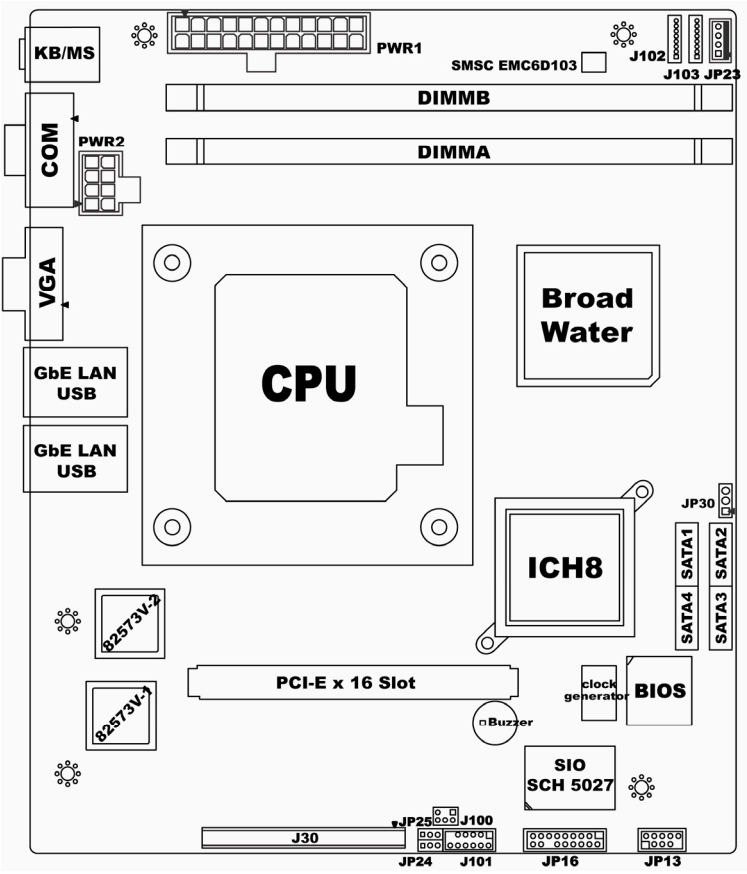
LED	Color	State	Description
LAN Linkage/Activity (Left Side)	Green Green ——	ON Blinking OFF	LAN Linked LAN Accessing No LAN linked
LAN Mode (Right Side)	Orange Green ——	ON ON OFF	1000Mb mode 100Mb mode 10Mb mode or No LAN Linked

1.5.4 Internal View



1. PCI-E Riser Card
2. Air Duct
3. Power Connector
4. Power Supply
5. Memory Slot
6. 3.5” Hard Disk Drive Bracket (Right)
7. Chassis Front Bezel
8. 3.5” Hard Disk Drive Bracket (Left)
9. System Fans
10. 2.5” Hard Disk Drive Bracket

1.5.5 Motherboard Layout



This diagram is representative of the latest board revision available at the time of publishing. The board you receive may not look exactly like the above diagram.

1.5.6 Jumpers & Connectors

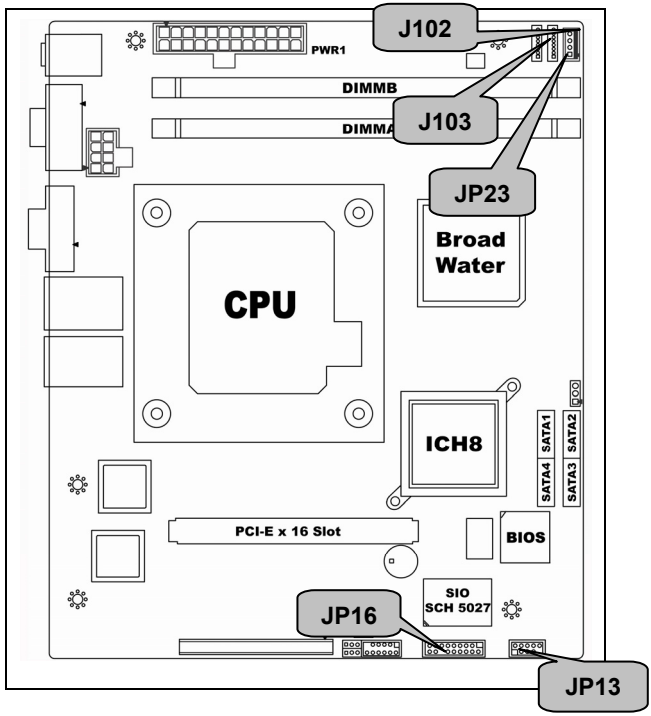
Jumper/Connector	Function
JP13	USB Pin Header (5_Pin x 2)
JP16	Front Panel Header 1 (9_Pin x 2)
JP23	FAN Connector (4_Pin x 1)
J102, J103	FAN Connector (8_Pin x 1)
JP24, JP25	LANA SMBus Selection (5_Pin x 2)
JP30	CMOS Clear
J30	SMDC Connector (25_Pin x 2)
J100	Chassis LCD Module Interface Header (3_Pin x 2)
J101	Front Panel Header 2 (6_Pin x 2)

Jumper Legend

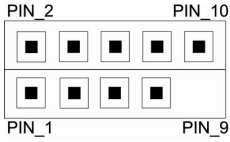
	OPEN - Jumper OFF	**Without jumper cover**
	CLOSED - Jumper ON	**With jumper cover**

	To indicate the location of pin-1
	To indicate the location of pin-1

Jumper Placement



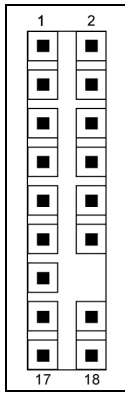
JP13: USB Pin Header (5Pin x 2)



Signal	Pin	Pin	Signal
+5VPWR	1	2	+5VPWR
DATA1-	3	4	DATA2-
DATA1+	5	6	DATA2+
GND	7	8	GND
Key	9	10	GND

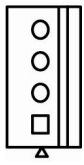
Use this header to connect to the USB devices via the enclosed USB cable.

JP16: Front Panel Header 1 (9Pin x 2)



Signal	Pin	Pin	Signal
HD LED+	1	2	PW LED+
HD LED-	3	4	PW LED-
Reset S/W	5	6	PWR S/W
Reset S/W	7	8	PWR S/W
3.3V	9	10	WLED+
EXT_NMI	11	12	WLED-
5VSB	13	14	KEY
SDA	15	16	GND
SCL	17	18	INTRUDER#

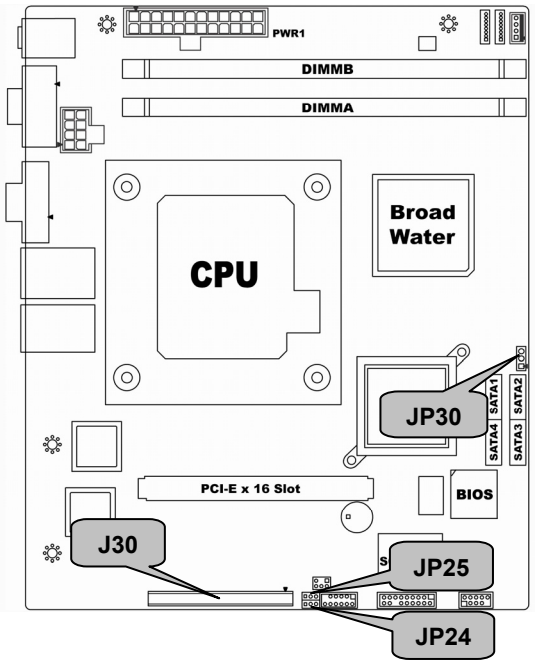
JP23: FAN Connector (4Pin x 1)



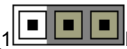
Pin	1	2	3	4
Signal	GND	+12V	TACH	PWM

J102/J103: FAN Connector (8Pin x 1)

Pin	Signal
1	PWM
2	+12V
3	TACH
4	GND
5	GND
6	TACH
7	+12V
8	PWM



JP24/JP25: LANA SMBus Selection (3Pin x 1)

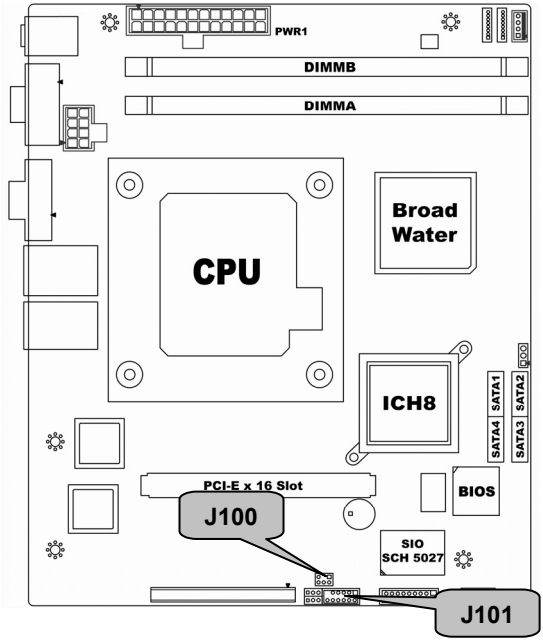
Pin_1 Pin_3	Use jumper cap to close **Pin_1** and **Pin_2** : Connect LANA SMBus to motherboard SMBus;
Pin_1  Pin_3	Use jumper cap to close **Pin_2** and **Pin_3**: Connect LANA SMBus to SMDC SMBus;

JP30: COMS Clear

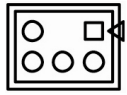
Pin_3 Pin_1 **Normal (Default)**	You can reset the CMOS settings by using this jumper if you have forgotten your system/setup password or need to clear system BIOS setting. - Power off system and **disconnect both power connectors from the motherboard** - Put jumper cap back to Pin_1 and Pin_2 (default setting) - Use jumper cap to close Pin_2 and Pin_3 for several seconds to Clear CMOS Reconnect power & power on system
Pin_3 Pin_1 **Clear CMOS**	

J30: SMDC Connector (25Pin x 2)

For connection with Tyan Server Management Daughter Card (SMDC). The SMDC connector is compatible with only the Tyan M3291 (SMDC).



J100: Chassis LCD Module Interface Header (3Pin x 2)

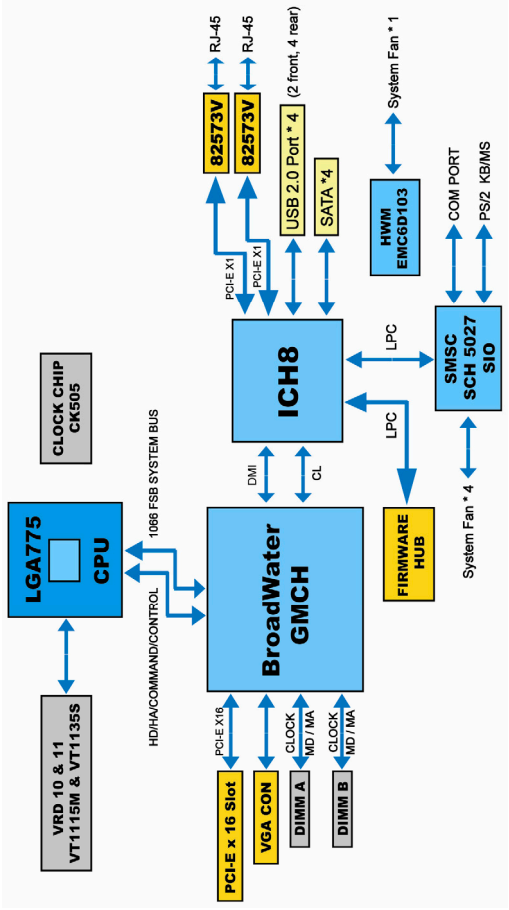


Signal	Pin	Pin	Signal
+5VPWR	1	2	SIN
KEY	3	4	GND
+5VSB	5	6	SOUT

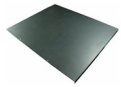
J101: Front Panel Header 2 (6Pin x 2)

Signal	Pin	Pin	Signal
LAN1_LED+	1	2	LAN1_LED-
LAN2_LED+	3	4	LAN1_LED-
NC	5	6	NC
IDLED+	7	8	IDLED-
IDSW+	9	10	IDSW-
KEY	11	12	NC

1.5.7 System Block Diagram



1.5.8 FRU List

Item	Model Number	Picture	Quantity	Description
Motherboard	S5180G2N-BB		1	S5180G2N-BB Single P4, PD, Core 2 Motherboard
Chassis Unit	CCHA-0240		1	GT14 1U Chassis for B5180
Chassis Top Cover	CCCV-0110		1	GT14 Top Cover
Chassis Front Bezel	CFBZ-0120		1	Front Bezel for GT14 Series 1U Chassis
HDD Tray	CHDT-0111		1	Internal 2.5" HDD Bracket
	CHDT-0120		1	Internal 3.5" HDD Bracket-L
	CHDT-0121		1	Internal 3.5" HDD Bracket-R
Power Supply	CPSU-0300		1	300W Single Power Supply
FAN	CFAN-0310		2	40X40X56mm Fan, 15800rpm, 8-pin
	CFAN-0270		1	40x40x28mm Fan, 14700rpm, 4-pin
Fan Holder	CFHD-0011		2	4056 FAN Holder with Rubber
	CFHD-0010		1	4028 FAN Holder with Rubber
Heat Sink & Cooler	CHSK-0131		1	CPU Heasink Sink
Air Duct	CADT-0190		1	Air Duct
PCBA	M1017		1	Front Control Board
	CPCA-0400		1	Front Panel USB Board
	M2083-RS		1	PCI-E X16 1U Riser Card
	M2061		1	TF-PCI-E to PCI-X 1U Riser Card
	M3291		1	SMDC IPMI Card

LCD Module	M1000		1	LCD Module
LCM Bracket	CMPT-0090		1	LCM Front Front-Bracket With Button
	CMPT-0091		1	LCM Back Back-Bracket With Standoff
	CMPT-0080		1	Rear Bracket with Bezel
Rack Mounting Parts	CRAL-0110		1	GT14 Standard Rail for 4-Post
	CRBK-0030		1	GT14 Open Rail for 2-Post
	CRAL-0111		1	GT14 Dual Rail for 4-Post with 2 Barebones
	CEAR-0120		1	Mounting Ear Kit
Cable Set	CCBL-0727		1	Front Control Board Cable, 500mm
	CCBL-0352		1	USB Board Cable, 350mm
	CCBL-0606		1	LCM Cable, 470mm
	CCBL-0310		1	A/C Power Cord,L=2440mm,US Type
	CCBL-0300		1	A/C Power Cord,L=1800mm,EU Type
	CCBL-0328		1	SATA Cable, 150mm
	CCBL-0329		1	SATA Cable, 200mm
	CCBL-032A		1	SATA Cable, 300mm
	CCBL-0622		1	SMDC Cable, 220mm

NOTE: This FRU List is representative of the latest revision available at the time of publishing. Any update of the contents, please visit: www.tyan.com

Chapter 2: Setting Up

2.0.1 Before you Begin

This chapter explains how to install the CPU, CPU heatsink, memory modules, 2.5” hard drive, 3.5” hard drive and PCI-E card.

2.0.2 Work Area

Make sure you have a stable, clean working environment. Dust and dirt can get into components and cause malfunctions. Use containers to keep small components separated. Putting all small components in separate containers prevents them from becoming lost. Adequate lighting and proper tools can prevent you from accidentally damaging the internal components.

2.0.3 Tools

The following procedures require only a few tools, including the following:

- A cross head (Phillips) screwdriver
- A grounding strap or an anti-static pad

Most of the electrical and mechanical connections can be disconnected using your fingers. It is recommended that you do not use needle-nosed pliers to remove connectors as these can damage the soft metal or plastic parts of the connectors.

2.0.4 Precautions

Components and electronic circuit boards can be damaged by discharges of static electricity. Working on a system that is connected to a power supply can be extremely dangerous. Follow the guidelines below to avoid damage to the Tank GT14 B5180 or injury to yourself.

- Ground yourself properly before removing the top cover of the system. Unplug the power from the power supply and then touch a safely grounded object to release static charge (i.e. power supply case). If available, wear a grounded wrist strap. Alternatively, discharge any static electricity by touching the bare metal chassis of the unit case, or the bare metal body of any other grounded appliance.

- Avoid touching motherboard components, IC chips, connectors, memory modules, and leads.

- The motherboard is pre-installed in the system. When removing the motherboard, always place it on a grounded anti-static surface until you are ready to reinstall it.

- Hold electronic circuit boards by the edges only. Do not touch the components on the board unless it is necessary to do so. Do not flex or stress circuit boards.

- Leave all components inside the static-proof packaging that they ship with until they are ready for installation.

- After replacing optional devices, make sure all screws, springs, or other small parts are in place and are not left loose inside the case. Metallic parts or metal flakes can cause electrical shorts.

Notes:

- All connectors are keyed to only attach one way.
- Always use the correct screw size as indicated in the procedures.

2.1 Installing Motherboard Components

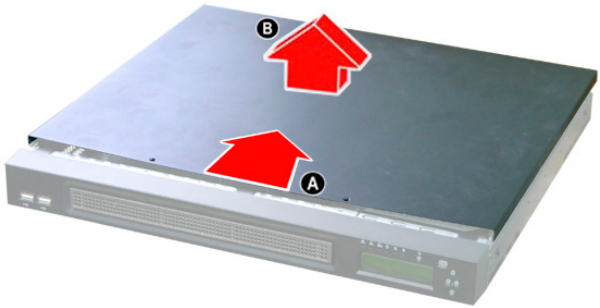
This section describes how to install components on to the motherboard, including CPU, memory modules and a PCI-E card.

2.1.1 Removing the Chassis Top Cover

Follow these instructions to remove the Tank GT14-B5180 chassis top cover.

1. Remove the screw on the back side as shown in the small diagram and tow on the top of the chassis top cover.

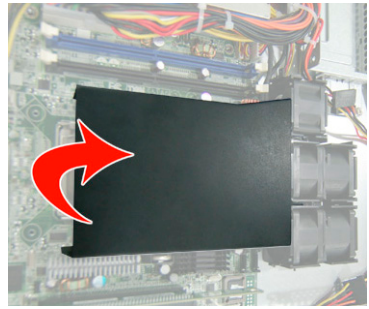
2. Slide the chassis top cover in the direction of the arrow (A). And lift the cover off (B).



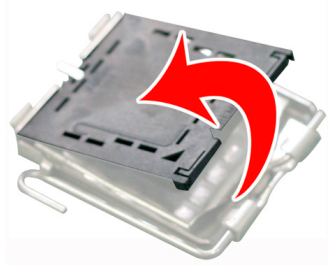
2.1.2 Installing the CPU and Heatsink

Follow these instructions on install CPU and CPU heatsink.

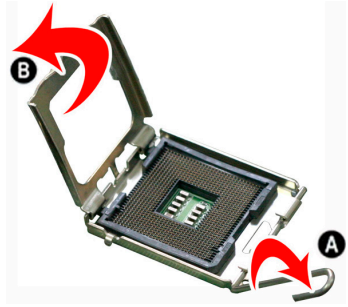
1. Remove the air duct in the direction of the arrow shown to locate the CPU socket.



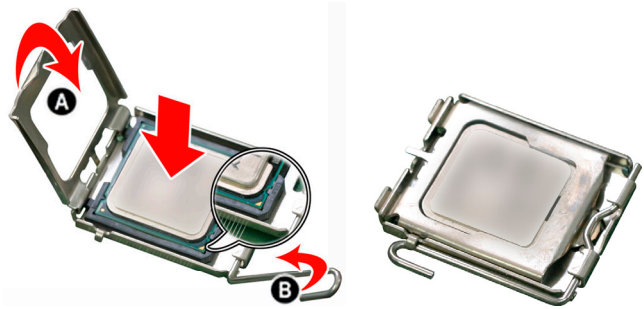
2. Remove the CPU socket cover.



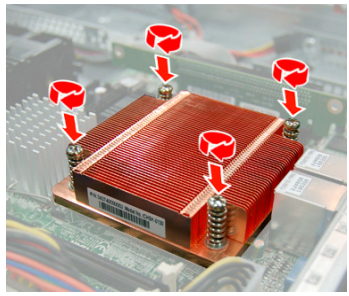
3. Pull the CPU lever up to unlock the CPU socket (A) and open the socket in the direction as shown (B).



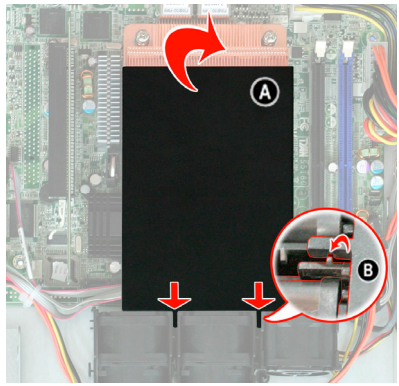
4. Place the CPU on the CPU socket, ensuring that pin 1 is located as shown in the smaller diagram. And then close the CPU socket cover (A) and press the CPU socket lever down to secure the CPU (B).



5. Place the heatsink on the top of the CPU and attach with four screws as shown.



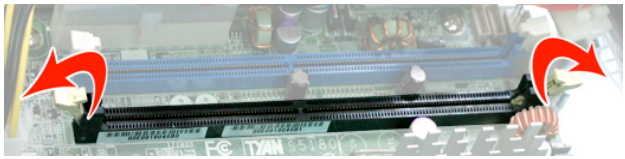
6. Place the air duct on the heatsink and press it down in the direction as the arrow shown (A). Make sure that the two tabs on the fan holder fit into the indentations on the air duct to secure the air duct (B).



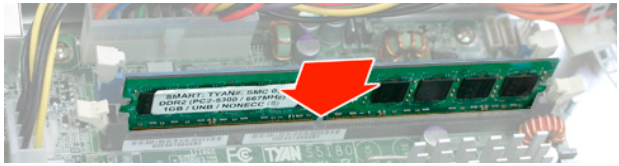
2.1.3 Installing the Memory

Follow these instructions to install the memory modules on the motherboard. Your GT14-B5180 has totally 2 DIMM sockets.

1. Press the memory slot locking levers in the direction of the arrows as shown in the following illustration.



2. Align the memory module with the slot. When inserted properly, the memory slot locking levers lock automatically onto the indentations at the ends of the module.

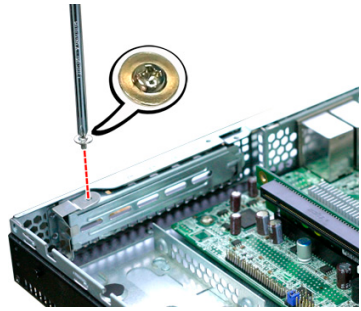


NOTE: Please install memory on DIMMA when you only use one memory module.

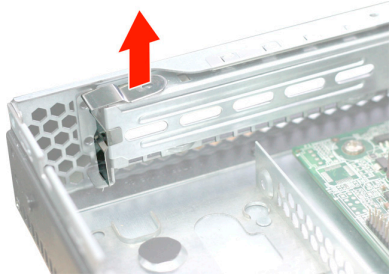
2.1.4 Installing the PCI-E Card

The GT14-B5180 has one PCI-E Card slot: **PCI-E x 16 card slot**
Follow these instructions to install the PCI-E card.

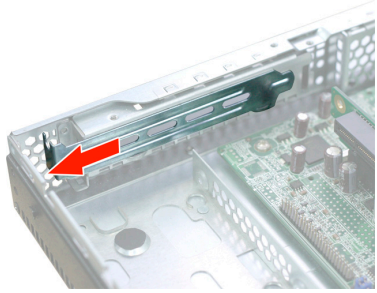
1. Remove the screw securing the tab of PCI-E slot from the rear side of your GT14 B5180 system.



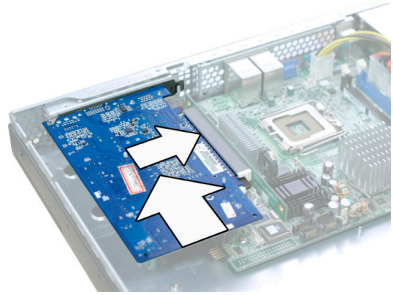
2. Pull the tab of PCI-E slot on the rear side in the direction as shown to release the I/O shield.



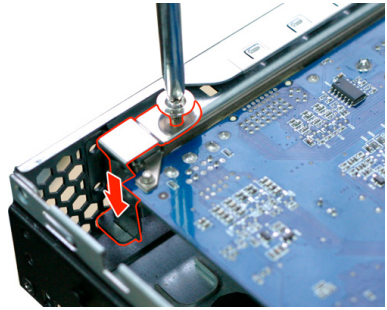
3. Move the I/O shield to left as shown and then take off the I/O shield.



4. Insert PCI-E card into the PCI-E riser in the direction of arrows as shown.



5. Push the tab of PCI slot on the rear side in the direction as shown to fix the PCI-E Card. And secure the tab of PCI-E slot on the rear side with one screw as shown.



2.2 Installing the Hard Disk Driver

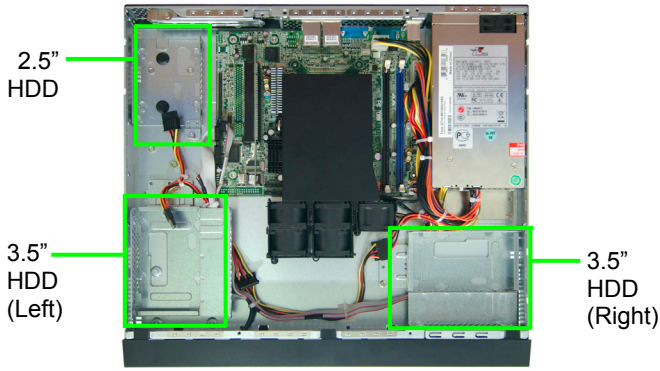
The GT14 chassis kit supports up to two 3.5” SATAII hard drives and one 2.5” SATAII hard drive without SMDC support. Refer to the following HDD Configuration Table and Location Diagram before installing Hard Driver.

HDD Configuration Table

		3.5” HDD (Left)	3.5” HDD (Right)	2.5” HDD
Default Chassis	No SMDC	●	●	●
	SMDC Supported	●	●	

NOTE: “ ● ” indicates that the corresponding HDD is supported.

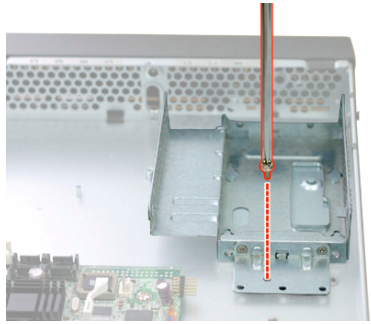
HDD Bracket Location Diagram



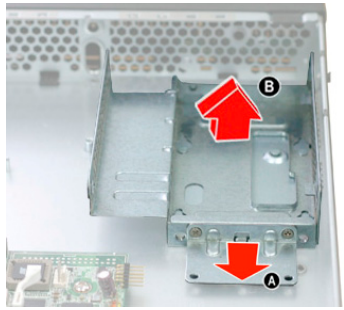
2.2.1 Installing the 3.5” Hard Drive (Left)

Follow these instructions to install the left 3.5” SATA hard drive.

1. Remove the screw securing the 3.5” drive bracket in the GT14 chassis.

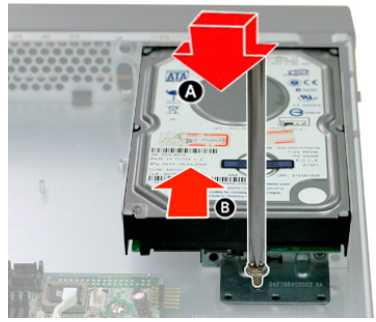


2. Slide the drive tray out (A) and lift the bracket out from the chassis (B).

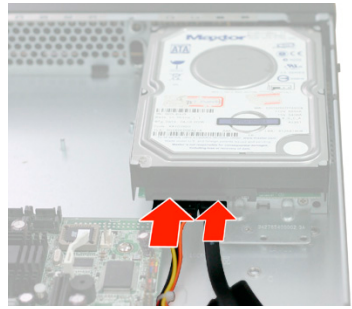


3. Place a 3.5” hard drive into the drive bracket and secure it with 4 screws.

4. Place the assembled hard drive with bracket in the spot you picked from the GT14 chassis (A) and slide it into place (B). And secure it with the screw removed in step 1.



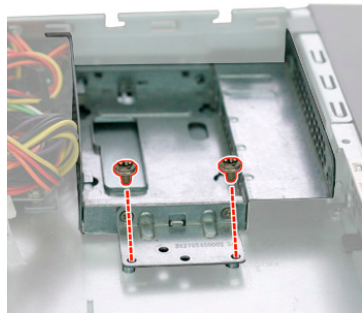
5. Connect the SATA drive data and power connectors.



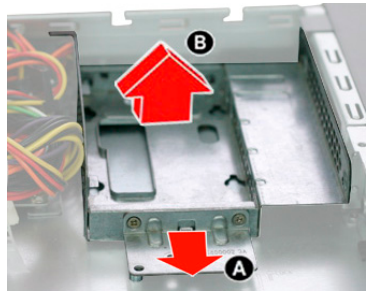
2.2.2 Installing the 3.5” Hard Drive (Right)

Follow these instructions to install the right 3.5” SATA hard drive.

1. Remove the two screws securing the 3.5” drive bracket in the GT14 chassis.

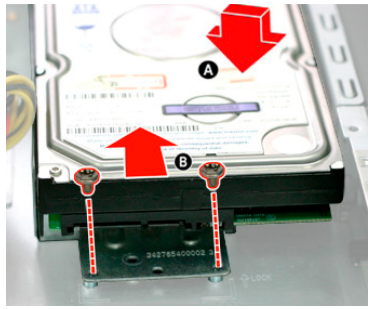


2. Slide the drive tray out (A) and lift the bracket out from the chassis (B).

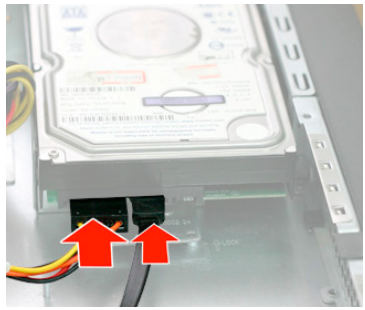


3. Place a 3.5” hard drive into the drive bracket and secure it with 4 screws.

4. Place the assembled hard drive with bracket in the spot you picked from the GT14 chassis (A) and slide it into place (B). And secure it with the two screw removed in step 1.



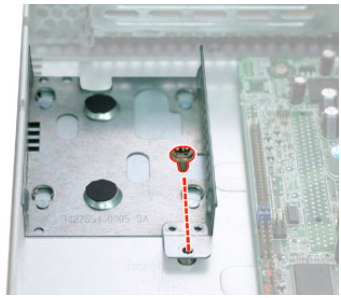
5. Connect the SATA drive data and power connectors.



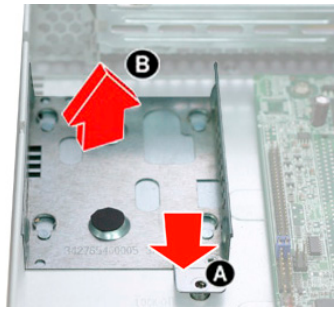
2.2.3 Installing the 2.5” Hard Drive

Follow these instructions to install the 2.5” SATA hard drive.

1. Remove the screw securing the 2.5” drive bracket in the GT14 chassis.

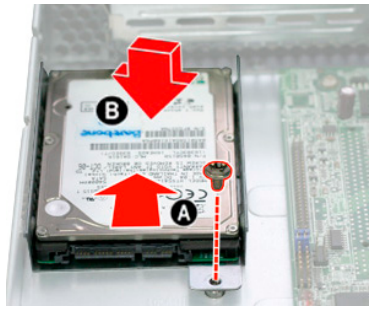


2. Slide the drive tray out (A) and lift the bracket out from the chassis (B).

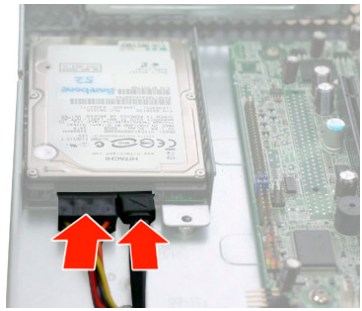


3. Place a 2.5” hard drive into the drive bracket and secure it with 4 screws.

4. Place the assembled hard drive with bracket in the spot you picked from the GT14 chassis (A) and slide it into place (B). And secure it with the screw removed in step 1.



5. Connect the SATA drive data and power connectors.



2.3 Rack Mounting

After installing the necessary components, the Transport GT14 can be mounted in a rack using the supplied rack mounting kit. The screw types are listed below for your reference.

Screws List

Rail for 4-post rack (Rail kit A)			
Item	Screw	Size	Quantity
A		M4-4L	18
B		M5-8L	10
C		M5-15L	4
Rail for 2-post rack (Rail kit B)			
Item	Screw	Size	Quantity
D		M5-8L	14
E		M4-4L	8
Mounting ear kit screws			
Item	Screw	Size	Quantity
F		M4-15L	2

For the complete contents in the rack mounting kit, see **"1.4 Unpacking"** for more information.

2.3.1 Installing the Server in a Rack (with Rail kit A)

Follow these instructions to mount the GT14 into an industry standard 19" rack.

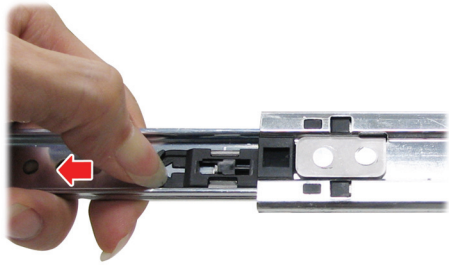
(Rail kit A)

NOTE: Before mounting the Transport GT14 in a rack, ensure that all internal components have been installed and that the unit has been fully tested. Maintenance can be performed on the unit while in a rack but it is preferable to install the device in a fully operational condition.

Installing the Inner Rails to Chassis

1. Screw the mounting ear to each side of GT14 as shown using 2 screws from the supplied mounting ear kit.

2. Press the latch and draw out the inner rails from rail assembly.

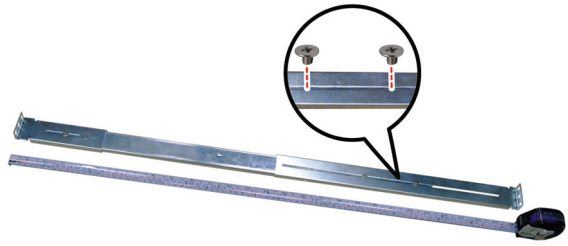


3. Install inner rails to left and right sides of chassis using 1 M4-4L(A) screw for each side.

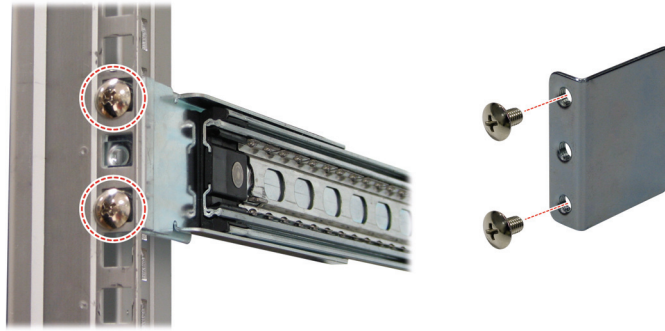
Installing Outer Rails to the Rack

4. Measure the distance between inner side of the front and rear mounting brackets in the rack.

5. Reserve the distance same as in step 4 on rear racket. Secure the rear bracket to outer rail with 2 M4-4L(A) screws.

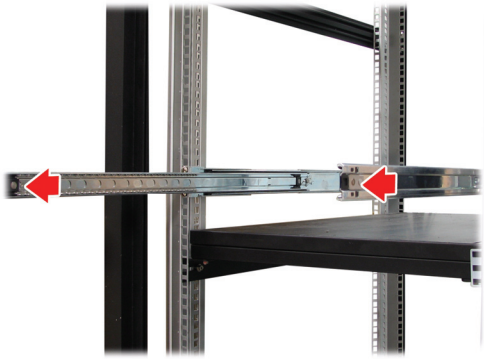


6. Secure the outer rails to the rack using 2 brackets and 5 M5-8L(B) screws for each side (2 at front side and 3 at rear side). Secure the mounting brackets from inside, not outside, of the rack.

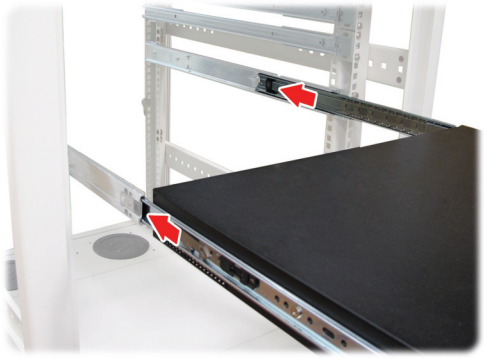


Rackmounting the Server

7. Draw out the middle rails to the latch position.



8. Lift the chassis and then insert the inner slide rails into the middle rails.



9. Push the chasis in and press the latch key (A). Then push the whole system into the rack(B).

A

B

10. Secure the mounting ears of chassis to the rack with one M4-15L(F) screw for each side.

NOTE: To avoid injury, it is strongly recommended that two people lift the GT14 into the place while a third person screws it to the rack.

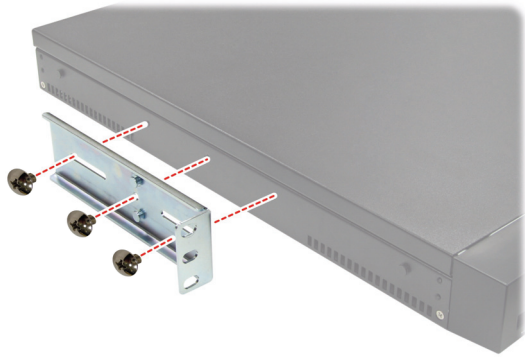
2.3.2 Installing the Server in an Open Rack (with Rail kit B)

In addition to rackmounting the GT14 in a 4-post rack, you can also mount it in a 2-post rack. You *must* use rail kit B to mount the GT14 in this type of rack.

2-post open rack

NOTE: Before mounting the Transport GT14 in a rack, ensure that all internal components have been installed and that the unit has been fully tested. Maintenance can be performed on the unit while in a rack but it is preferable to install the device in a fully operational condition.

1. Install the inner rail brackets to left and right sides of chassis using 3 M4-4L(E) screws for each side.

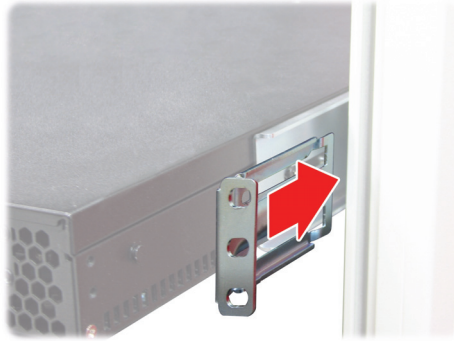


2. Lift the chassis and secure the mounting brackets to the front of rack using 3 M5-8L(D) screws for each side.

NOTE: To avoid injury, it is strongly recommended that two people lift the GT14 into the place while a third person screws it to the rack.

3. Locate the three small brackets at the rear of rack as shown. Adjust their positions to fit the mounting brackets to be secured in the following steps.

4. Slide the mounting brackets into the rear of inner rail brackets as shown.



5. Secure the mounting brackets with three M4-4L(E) screws for each side.

6. The GT14 has been mounted to the rack as shown.

2.4 LCD Software Setup

2.4.1 Configuring the System

After you have made the network and power connections, you can configure the network settings using the LCD console.

Before You Begin

Before you begin, make sure that you have the following information ready:

- IP address assigned to the system
- Subnet mask of your network'

2.4.2 M1000 Driver Installation for Windows

Step 1. Install TYAN TSM program.

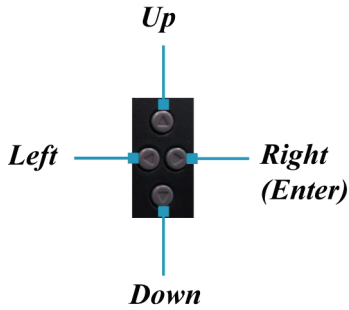
Step 2. Install M1000 driver for Windows.

2.4.3 M1000 Driver Installation for Linux

Step 1. Install M1000 driver for Linux

2.5 LCD Console

Here shows the LCD front panel and its four control buttons.



2.5.1 Key Definition

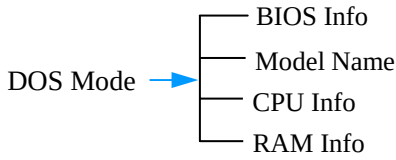
1. **Up**: Go to the previous selection.
2. **Left**: Go to the previous level selection.
3. **Right (Enter)**: Go to the next level selection; press again to execute command.
4. **Down**: Go to the next selection.

After you have installed the ***TYAN TSM*** and ***M1000 driver for Windows*** (for Windows OS) or the ***M1000 driver for Linux*** (for Linux OS), you can use the LCD front panel control buttons to get access to the information under each submenu.

2.5.2 DOS Mode and Windows Mode

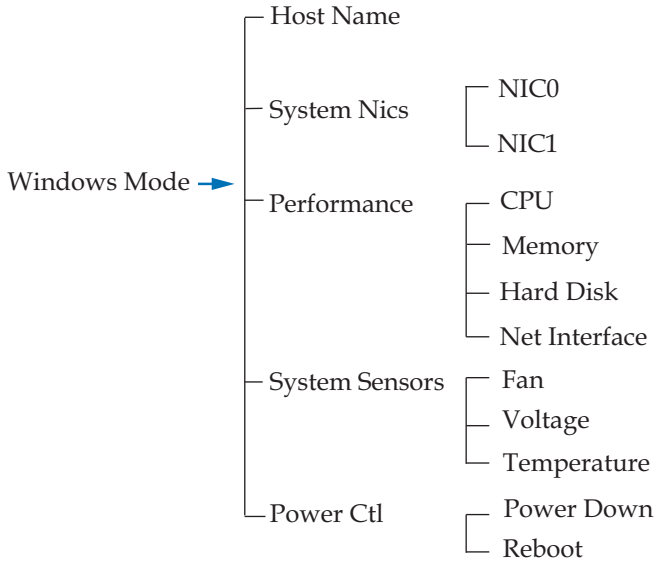
M1000 supports both **DOS Mode** and **Windows Mode**.

DOS Mode



No.	*Item*	*Screen Display*
1	BIOS Info	V1.02.B11
2	Model Name	Tank GT14 MODEL: B5180
3	CPU Info	CPU: xxxx MHz
4	Memory Info	Memory: xxxx MB

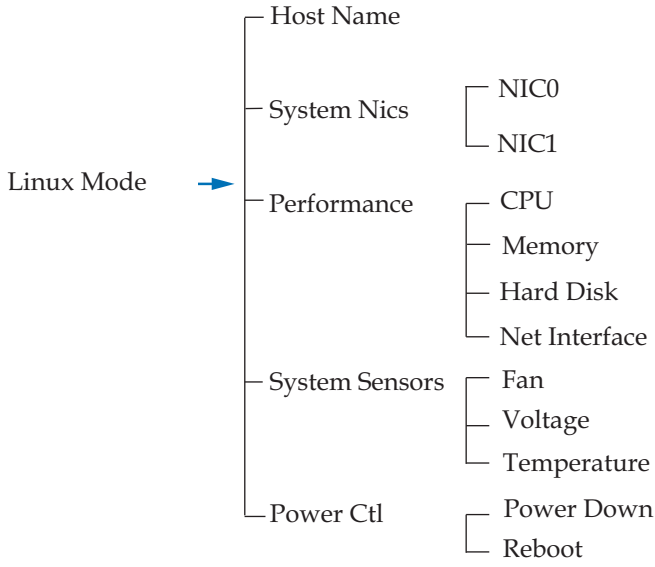
Windows Mode



Item		***Screen Display***	
Host Name		TYAN Computer GT14 B5180	
1	**System Nics**		
	1.1	NIC0	DHCP IP Address: xx.xx.x.xxx Net Mask: xxx.xxx.xxx.0 Gateway: xxx.xxx.xxx.0
	1.2	NIC1	DHCP IP Address: xx.xx.x.xxx Net Mask: xxx.xxx.xxx.0 Gateway: xxx.xxx.xxx.0

Item		*Screen Display*		
Host Name		TYAN Computer GT14 B5180		
2	**Performance**			
	2.1	CPU	CPU Usage	x.xx%
	2.2	Memory	Memory Usage	xx%
	2.3	Hard Disk	Disk Usage	x.xx%
	2.4	Net Interface	NIC0 Flow Speed NIC1 Flow Speed	x Bps x Bps
3	**System Sensors**			
	3.1	Fan	Chassis Fan 1 Chassis Fan 2 Chassis Fan 3 Chassis Fan 4 Chassis Fan 5	xxxxRPM xxxxRPM xxxxRPM xxxxRPM xxxxRPM
	3.2	Voltage	CPU Core Volt System Volt 12V System Volt 5V 5V Standby	x.xxV x.xxV x.xxV x.xxV
	3.3	Temperature	CPU temp System temp	xx℃ xx℃
4		**Power Ctrl**		
		4.1	Power Down	Power Down
		4.2	Reboot	Reboot

2.5.3 Linux Mode



Item		***Screen Display***	
Host Name		TYAN Computer GT14 B5180	
1	**System Nics**		
	1.1	NIC0	DHCP IP Address: xx.xx.x.xxx Net Mask: xxx.xxx.xxx.0 Gateway: xxx.xxx.xxx.0
	1.2	NIC1	DHCP IP Address: xx.xx.x.xxx Net Mask: xxx.xxx.xxx.0 Gateway: xxx.xxx.xxx.0

Item	*Screen Display*		
Host Name	TYAN Computer GT14 B5180		
2	**Performance**		
	2.1	CPU	CPU Usage	x.xx%
	2.2	Memory	Memory Usage	xx%
	2.3	Hard Disk	Disk Usage	x.xx%
	2.4	Net Interface	NIC0 Flow Speed NIC1 Flow Speed	x Bps x Bps
3	**System Sensors**		
	3.1	Fan	Chassis Fan 1 Chassis Fan 2 Chassis Fan 3 Chassis Fan 4 Chassis Fan 5	xxxxRPM xxxxRPM xxxxRPM xxxxRPM xxxxRPM
	3.2	Voltage	CPU Core Volt System Volt 12V System Volt 5V 5V Standby	x.xxV x.xxV x.xxV x.xxV
	3.3	Temperature	CPU temp System temp	xx℃ xx℃
4		**Power Ctrl**	
	4.1	Power Down	Power Down
	4.2	Reboot	Reboot

Chapter 3: Replacing Pre-Installed Components

3.1 Introduction

This chapter explains how to replace pre-installed components, including the Motherboard, LCD Module, cooling fans and power supply.

3.1.1 Work Area

Make sure you have a stable, clean working environment. Dust and dirt can get into components and cause malfunctions. Use containers to keep small components separated. Putting all small components in separate containers prevents them from becoming lost. Adequate lighting and proper tools can prevent you from accidentally damaging the internal components.

3.1.2 Tools

The following procedures require only a few tools, including the following:

- A cross head (Phillips) screwdriver
- A grounding strap or an anti-static pad

Most of the electrical and mechanical connections can be disconnected using your fingers. It is recommended that you do not use needle-nosed pliers to remove connectors as these can damage the soft metal or plastic parts of the connectors.

3.1.3 Precautions

Components and electronic circuit boards can be damaged by discharges of static electricity. Working on a system that is connected to a power supply can be extremely dangerous. Follow the guidelines below to avoid damage to the Tank GT14 B5180 or injury to yourself.

- Ground yourself properly before removing the top cover of the system. Unplug the power from the power supply and then touch a safely grounded object to release static charge (i.e. power supply case). If available, wear a grounded wrist strap. Alternatively, discharge any static electricity by touching the bare metal chassis of the unit case, or the bare metal body of any other grounded appliance.

- Avoid touching motherboard components, IC chips, connectors, memory modules, and leads.

- The motherboard is pre-installed in the system. When removing the motherboard, always place it on a grounded anti-static surface until you are ready to reinstall it.

- Hold electronic circuit boards by the edges only. Do not touch the components on the board unless it is necessary to do so. Do not flex or stress circuit boards.

- Leave all components inside the static-proof packaging that they ship with until they are ready for installation.

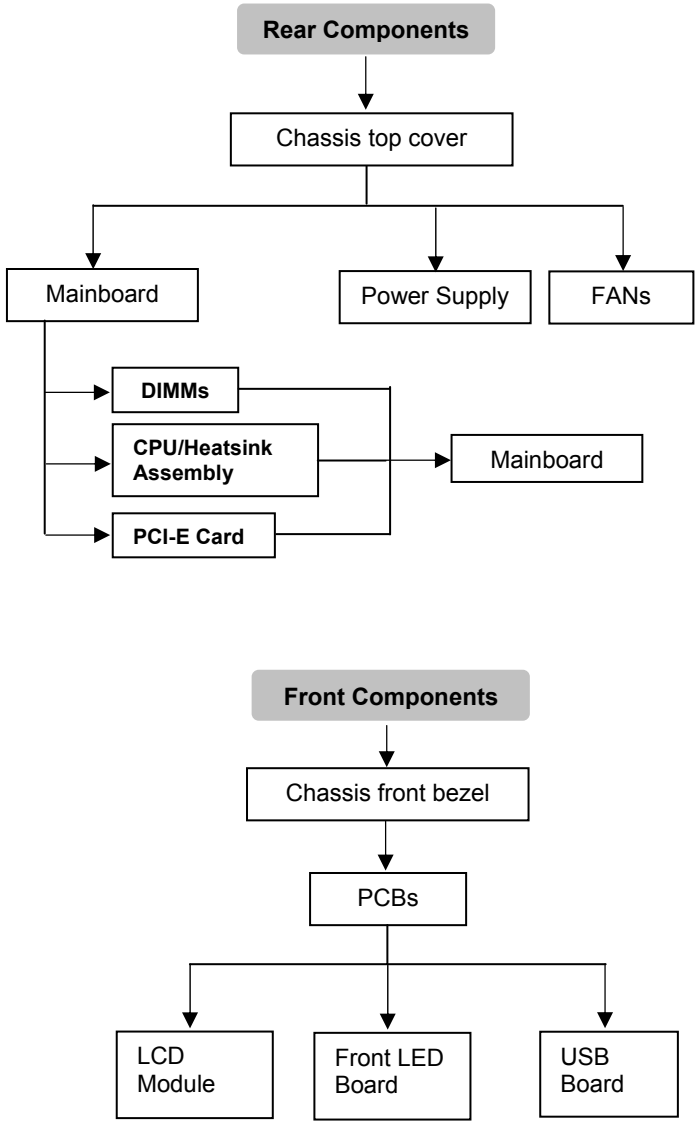
- After replacing optional devices, make sure all screws, springs, or other small parts are in place and are not left loose inside the case. Metallic parts or metal flakes can cause electrical shorts.

Notes:

- All connectors are keyed to only attach one way.
- Always use the correct screw size as indicated in the procedures.

3.2 Disassembly Flowchart

The following flowchart outlines the disassembly procedure.



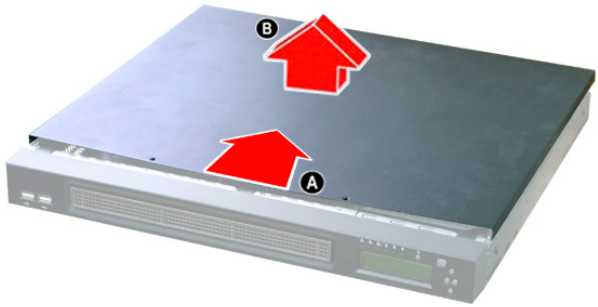
3.3 Removing the Chassis Top Cover

Before replacing any parts you must remove the chassis cover.

Follow these instructions to remove the cover of the Tank GT14 chassis cover.

1. Remove the screw on the back side as shown in the small diagram and two on the top of the chassis top cover.

2. Slide the chassis top cover in the direction of the arrow (A) and lift the cover off (B).



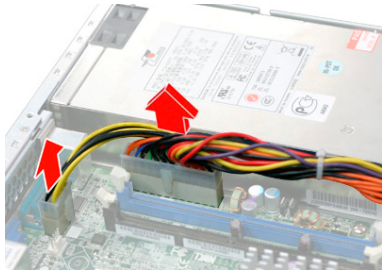
3.4 Replacing Motherboard Components

Follow these instructions to replace motherboard components, including the motherboard.

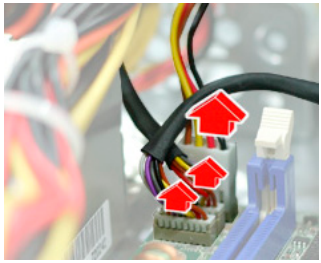
3.4.1 Disconnecting All Motherboard Cables

Before replacing the motherboard or certain components, remove cables connected to the motherboard. Follow these instructions to remove all motherboard cabling.

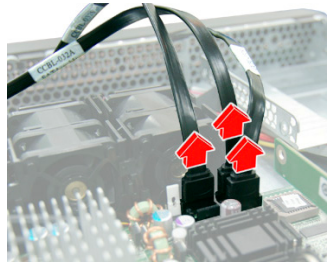
1. Disconnect Power Cables.



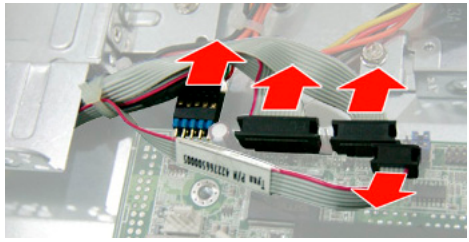
2. Disconnect the FAN connectors, SATA cables, Front Panel cables and USB cable.



FAN connectors



SATA hard drive cables

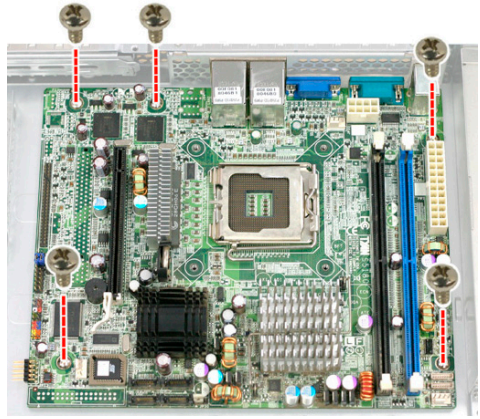


Front Panel Cables & USB Cable

3.4.2 Removing the Motherboard

After removing all of the aforementioned cables, follow these instructions to remove the motherboard from the chassis.

1. Remove the five screws securing the motherboard to the chassis.

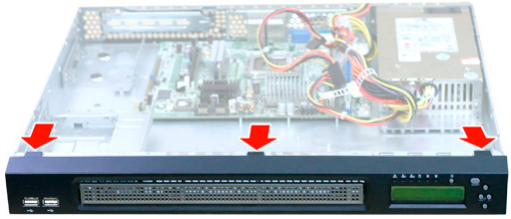


2. Remove the motherboard.

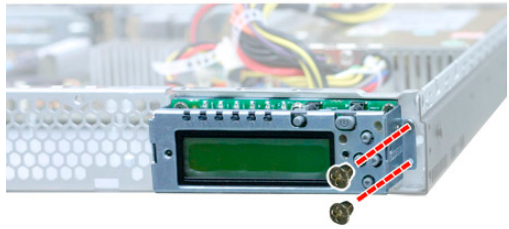
3.5 Replacing the LCD Module and LED Board

Follow these instructions to replace the LCD module and LED Board in your GT14 B5180 system.

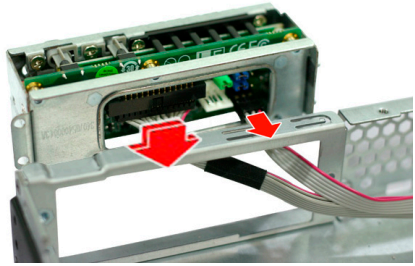
1. Remove the chassis front bezel as shown.



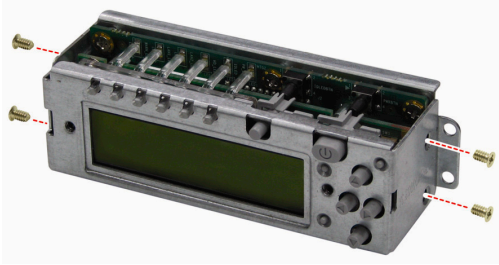
2. Remove the two screws securing the LCD module.



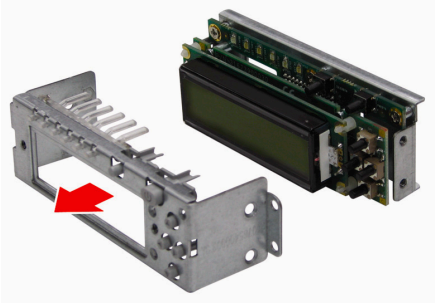
3. Disconnect the LCM and control board cable.



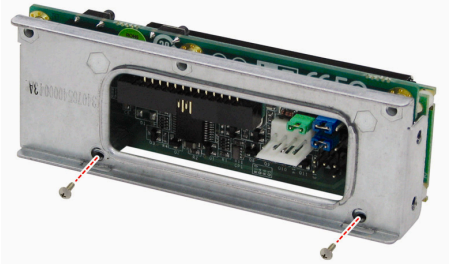
4. Remove the four screws on both sides of the LCD module.



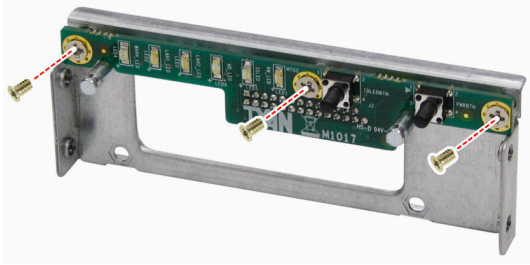
5. Remove the LCD front bracket from the LCD module.



6. Remove the two screws from the rear LCD bracket.

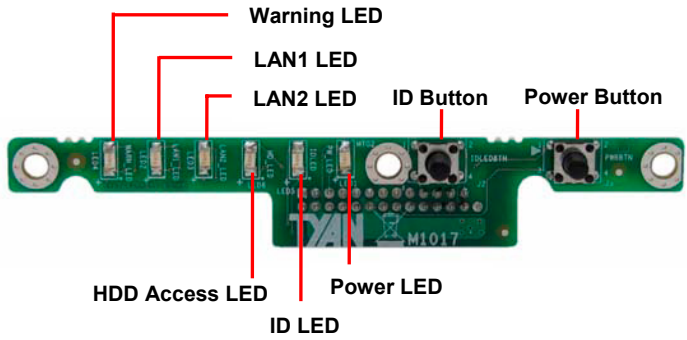


7. Remove the three screws securing the LED board to the rear LCD bracket. Remove the LED board.



8. Place a new LCD module in position in the chassis following the above steps in reverse.

3.5.1 M1017 LED Board Features



3.5.2 M1017 LED Board Connector Pin Definition

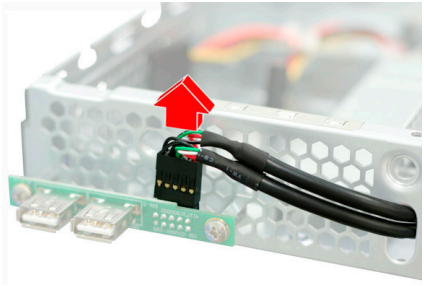
2 x 14 Pin Header

1	HD_LED+	2	HD_LED-
3	RST	4	GND
5	PW_LED+	6	GND
7	WARN_LED+	8	WLED-
9	PCI_SMBUSDA	10	PCI_SMBUSCL
11	FP_NMI_L	12	GND
13	NMI_PWR	14	INTRUDER_L
15	PWRSW-	16	GND
17	LAN1_LED+	18	LAN1_LEDLINK
19	LAN2_LED+	20	LAN2_LEDLINK
21	NC	22	NC
23	IDLED+	24	ID_LED-
25	IDLEDBTN-	26	ID_SW-
27	KEY	28	NC

3.6 Replacing the USB Board

Follow these instructions to replace the USB board in your GT14 B5180 system.

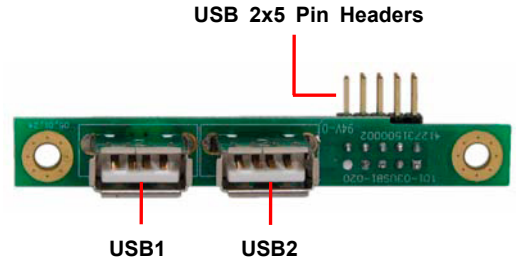
1. Remove the chassis front bezel as step 1 in "**3.5 Replacing the LCD Module and LED Board**".
2. Disconnect the USB cable from the USB board.



3. Remove the two screws securing the USB board to separate the USB board from the chassis.

4. Place a new USB board in position in the chassis following the above steps in reverse.

3.6.1 USB Board Features



3.6.2 USB Board Connector Pin Definition

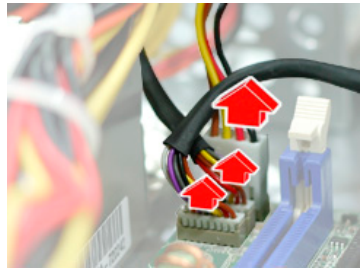
2 x 5 Pin USB Header

Pin	Definition	Pin	Definition
1	USB1 POWER	2	USB2 POWER
3	USB1 DATA-	4	USB2 DATA-
5	USB1 DATA+	6	USB2 DATA+
7	USB1 GND	8	USB2 GND
9	KEY PIN	10	NONE

3.7 Replacing the Cooling Fans

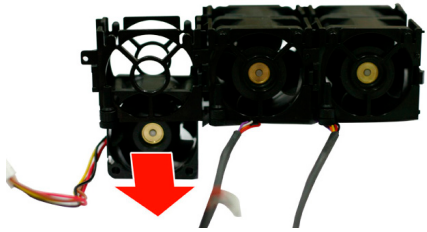
Follow these instructions to replace the cooling fans in your GT14 B5180 system.

1. Remove the three fan connectors from the motherboard.



2. Remove the fan unit from the chassis.

3. Remove the fan you want to replace in the direction of the arrow from the fan cradle.

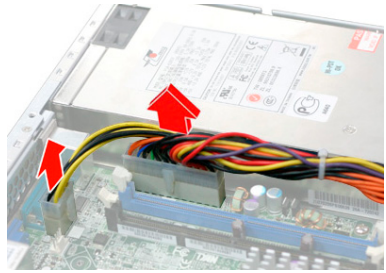


4. Replace a new fan into the fan cradle following the above steps in reverse.

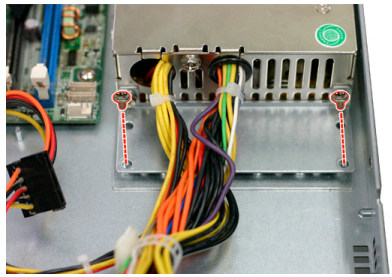
3.8 Replacing the Power Supply

Follow these instructions to replace the power supply in your GT14 B5180 system.

1. Disconnect the power cables from the motherboard. Refer to "**3.4.1 Disconnecting All Motherboard Cables**" for more details.

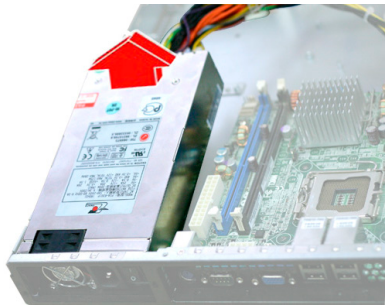


2. Remove the two screws securing the power supply to the chassis.

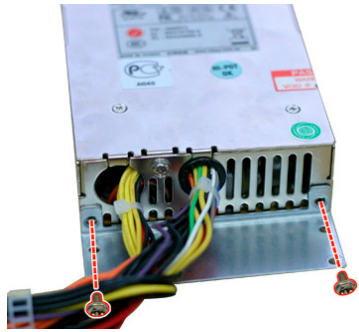


3. Remove the two screws securing the power supply to the front power bracket.

4. Lift the power supply with its bracket free from the chassis.



5. Free the power supply from its bracket by removing the two screws.



6. Replace a new power supply into the chassis following the above steps in reverse.

Chapter 4: BIOS Setup

Installation

The BIOS is the basic input/output system, the firmware on motherboard that enables your hardware to interface with your software. This chapter describes different settings for the BIOS that can be used to configure your system.

The BIOS section of this manual is subject to change without notice and is provided for reference purposes only. The settings and configurations of the BIOS are current at the time of print, and therefore may not match exactly what is displayed on screen.

This section describes the BIOS setup program. The setup program lets you modify basic configuration settings. The settings are then stored in a dedicated, battery-backed memory (called NVRAM) that retains the information when the power is turned off.

This motherboard's BIOS is a customized version of the industry-standard BIOS for IBM PC AT-compatible personal computers. The BIOS provides critical, low-level support for the system's central processing unit (CPU), memory, and I/O subsystems.

This BIOS has been customized by adding important features such as password protection, power management, and chipset "tuning" features that control the system. This section will guide you through the process of configuring the BIOS for your system setup.

Starting Setup

The BIOS is immediately activated when you turn on the computer. The BIOS reads system configuration in CMOS RAM and begins the process of checking out the system and configuring it through the Power-On-Self-Test (POST).

When these preliminary tests are complete, the BIOS searches an operating system on one of the system's data storage devices (hard drive, CD-ROM, etc). If one is found, the BIOS will launch that operating system and hand control over to it. You can enter the BIOS setup by pressing the [**Delete**] key when the machine boots up and begins to show the memory count.

Setup Basics

The table below shows how to navigate in the setup program using the keyboard.

Key	Function
Tab	Moves from one selection to the next
Left/Right Arrow Keys	Change from one menu to the next
Up/Down Arrow Keys	More between selections
Enter	Opens highlighted section
PgUp/PgDn Keys	Change settings.

Getting Help

Pressing [**F1**] will display a small help window that describes the appropriate keys to use and the possible selections for the highlighted item. To exit the Help Window, press [**ESC**] or the [**F1**] key again.

In Case of Problems

If you discover that you have trouble booting the computer after making and saving the changes with the BIOS setup program, you can restart the computer by holding the power button down until the computer shuts off (usually within 4 seconds); resetting by pressing CTRL-ALT-DEL; or clearing the CMOS.

The best advice is to only alter settings that you thoroughly understand. In particular, do not change settings in the Chipset section unless you are absolutely sure of the outcome. The Chipset defaults were carefully chosen by TYAN or your system manufacturer for the best performance and reliability. Even a seemingly small change to the Chipset setup options may cause the system to become unstable or unusable.

Setup Variations

Not all systems will have the same BIOS setup layout or options. While the basic look and function of the BIOS setup remains more or less the same for most systems, the appearance of your Setup screen may differ from the charts shown in this section. Each system design and chipset combination requires a custom configuration. In addition, the final appearance of the Setup program depends on the system designer. Your system designer may decide that certain items should not be available for user configuration, and remove them from the BIOS setup program.

NOTE: On the following pages, options written in **bold type** represent the BIOS Setup default.

4.1 – Main BIOS Setup

When you enter Phoenix - AwardBIOS CMOS Setup Utility, the following screen will appear as below:

Phoenix – AwardBIOS CMOS Setup Utility

► Standard CMOS Features ► Advanced BIOS Features ► Advanced Chipset Features ► Integrated Peripherals ► Power Management Setup ► PnP/PCI Configurations ► PC Health Status	► Frequency/Voltage Control Load Fail-Safe Defaults Load Optimized Defaults Set Supervisor Password Set User Password Save & Exit Setup Exit Without Saving
Esc: Quit ↑ ↓ ← →: Select Item F10: Save & Exit Setup	
Time, Date, Hard Disk Type…	

Standard CMOS Features:
Use this menu for basic system configuration.

Advanced BIOS Features:
Use this menu to set the Advanced Features available on your system.

Advanced Chipset Features:
Use this menu to change the values in the chipset registers and optimize your system's performance.

Integrated Peripherals:
Use this menu to specify your settings for integrated peripherals.

Power Management Setup:
Use this menu to specify your settings for power management.

PnP / PCI Configuration:
This entry appears if your system supports PnP / PCI.

PC Health Status:
Use this menu to show your system temperature, speed and voltage status.

Frequency/Voltage Control:
Use this menu to specify your settings for frequency/voltage control.

Load Fail-Safe Defaults:

Use this menu to load the BIOS default values for the minimal/stable performance for your system to operate.

Load Optimized Defaults:
Use this menu to load the BIOS default values that are factory settings for optimal performance system operations. While Award has designed the custom BIOS to maximize performance, the factory has the right to change these defaults to meet their needs.

Supervisor / User Password:
Use this menu to set User and Supervisor Passwords.

Save & Exit Setup:
Save CMOS value changes to CMOS and exit setup.

Exit Without Save:
Abandon all CMOS value changes and exit setup.

4.2 – Standard CMOS Features

In this section, you can alter general features such as the date and time, as well as access to the IDE configuration options. Note that the options listed below are for options that can directly be changed within the Main Setup screen. User can Use the arrow keys to highlight the item andthen use the <PgUp> or <PgDn> keys to select the value you want in each item.

Phoenix – AwardBIOS CMOS Setup Utility
Standard CMOS Features

Date (mm: dd: yy)	Thu, Apr 26 2007	Item Help
Time (hh: mm: ss)	6: 33: 28	
►IDE Channel 0 Master	[None]	Menu Level ►
►IDE Channel 0 Slave	[None]	
►IDE Channel 1 Master	[ST380013AS]	Change the day, month, year and century
►IDE Channel 1 Slave	[None]	
►IDE Channel 2 Master	[None]	
►IDE Channel 3 Master	[None]	
Video	[EGA/VGA]	
Halt On	[All Errors]	
Based Memory	640K	
Extended Memory	1038336K	
Total Memory	1039360K	

↑↓←→: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit
F1: General Help
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

Date / Time Setup:
System Date: Adjusts the system date.

MM	Months
DD	Days
YYYY	Years

System Time: Adjusts the system clock.

HH	Hours (24hr. format)
MM	Minutes
SS	Seconds

IDE Master / Slave Setup:

Computer detects IDE drive type from drive C to drive F.
None / Auto / Manual

Video:
Define the video display mode.
EGA/VGA / CGA 40 / CGA 80 / MONO

Halt On:
Determine if the computer should stop when an error is detected during power up.
No Errors / All Errors / All, But Keyboard / All, But Diskette / All, But Disk/Key

4.2.1 Phoenix – AwardBIOS CMOS Setup Utility

IDE Channel 1 Master

IDE HDD Auto-Detection	[Press Enter]	Item Help
IDE Channel 1 Master Access Mode	[Auto]	Menu Level ►
Capacity	80GB	To auto-detect the HDD's size, head…on this channel
Cylinder	38309	
Head	16	
Precomp	0	
Landing Zone	38308	
Sector	255	

↑↓←→: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit
F1: General Help
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

IDE HDD Auto-Detection:
Press "Enter" to select this option for automatic device detection.

Access Mode:
Use this to set the access mode for the hard drive.
CHS/LBA/Large/Auto

Capacity:
Capacity of currently installed hard disk.

Cylinder:
Number of cylinders

Head:
Number of heads

Precomp:
Write precomp

Landing Zone:
Landing zone

Sector:
Number of sectors

4.3 – Advanced BIOS Features

In Advanced BIOS features, you will be able to adjust many of the feature that effect system speed and boot-up options.

Phoenix – AwardBIOS CMOS Setup Utility
Advanced BIOS Features

►CPU Feature	[Press Enter]	Item Help
►Hard Disk Boot Priority	[Press Enter]	_____
Virus Warning	[Disabled]	_____
CPU L1 & L2 Cache	[Enabled]	
CPU L3 Cache	[Enabled]	Menu Level ►
Quick Power On Self Test	[Enabled]	
First Boot Device	[CDROM]	
Second Boot Device	[Hard Disk]	
Third Boot Device	[LS120]	
Boot Other Device	[Enabled]	
Boot Up NumLock Status	[On]	
Gate A20 Option	[Fast]	
Typematic Rate Setting	[Disabled]	
X Typematic Rate (Chars/Sec)	6	
X Typematic Delay (Msec)	250	
Security Option	[Setup]	
X APIC Mode	[Enabled]	
MPS Version Control For OS	[1.4]	
OS Select For DRAM>64MB	[Non-OS2]	

↑↓←→: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit
F1: General Help
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

Virus Warning:
This option allows you to choose the VIRUS warning feature for IDE Hard Disk boot sector protection.
Enabled / Disabled

CPU L1 & L2 Cache:
Toggle the use of CPU L1 and L2 cache.
Enabled / Disabled

CPU L3 Cache:
Toggle the use of CPU L3 cache.
Enabled / Disabled

Quick Power On Self Test:
This option allows the system to skip self tests for faster startup.
Enabled / Disabled

First, Second, and Third Boot Devices:
These indicate the boot priority. For example if the First Boot Device is set as CDROM, the Second Boot Device as Hard Disk, and the Third Boot Device as LS120, then the system will try to boot from CDROM, failing which it will try to boot from a Hard Disk, and if this also fails, it will try to boot from the LS120.

Boot Other Device:
This option allows the system to boot from any other bootable device.
Enabled / Disabled

Boot up NumLock Status:
This option allows you to select power on state for NumLock.
Off / On

Gate A20 Option:
Select if chipset or keyboard controller should control GateA20. When set to Fast, the system chipset controls Gate A20. When set to Normal, a pin in the keyboard controller controls Gate A20. Setting Gate A20 to Fast improves system speed, particularly with OS/2 and Windows.
Normal / Fast

Typematic Rate Setting:
Toggles control of keyboard key repeat rate.
Enabled/Disabled

Typematic Rate (Chars/Sec):
Defines how many characters are repeated per second when holding down a key on the keyboard.
6 / 8 / 10 / 12 / 15 / 20 / 24 / 30

Typematic Delay (Msec):
Define the delay that occurs at keystroke before that key will start to repeat.
250 / 500 / 750/ 1000

Security Option:
Sets the password on either just the BIOS setup or the entire system (BIOS setup included).
Setup / System

APIC Mode:
This option allows you to enabled or disabled Advanced Programmable Interrupt Controller (APIC) Mode.
Enabled / Disabled

MPS Version Control For OS:
When two CPUs are onboard (not a feature of this board) this feature allows you to select Multi-Processor Spec. (MPS) version control for OS

when the logo test executes.

1.1 / 1.4

OS Select For DRAM>64MB:

This BIOS feature determines how systems with more than 64MB of memory are managed. A wrong setting can cause problems like erroneous memory detection.

If you are using an older version of the IBM OS/2 operating system, you should select OS/2.

If you are using the IBM OS/2 Warp v3.0 or higher operating system, you should select Non-OS/2.

If you are using an older version of the IBM OS/2 operating system but have already installed all the relevant IBM Fix-Paks, you should select Non-OS/2.

Users of non-OS/2 operating systems (like Microsoft Windows 2003) should select the Non-OS2 option.

Non-OS2 / OS2

4.3.1 – CPU Features

Press [Enter] to access advanced features of the CPU.

Phoenix – AwardBIOS CMOS Setup Utility
CPU Feature

Limit CPUID MaxVal	[Disabled]	Item Help
C1E Function	[Auto]	_____
Execute Disable Bit	[Enabled]	_____
Virtualization Technology	[Enabled]	Menu Level ►

↑↓←→: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit
F1: General Help
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

Limit CPUID MaxVal:
Set Limit CPUID MaxVal to 3, should be "Disabled" for Win2003.
Enabled / Disabled

C1E Function:
Set the CPU C1E function.
Auto / Disabled

Execute Disable Bit:
If disabled, forces the XD feature flag to always return 0.
Enabled / Disabled

Virtualization Technology:
If enabled, a VMM can utilize the additional hardware capabilities provided by Vanderpool Technology.
Enabled / Disabled

4.3.2 – Hard Disk Boot Priority

Select （Press Enter）to set Hard Disk Boot Priority

Phoenix – AwardBIOS CMOS Setup Utility
Hard Disk Boot Priority

1. Ch1 M ST380013AS 2. Bootable Add-in Cards	Item Help Menu Level ►
	Use (↑) or (↓) to select a device, then press<+> to move it up, or <-> to move it down the list. Press (ESC) to exit this menu.
↑↓←→: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults	

This feature will auto detect all hard disks of bootable device on the system. It also allows users to select hard disk device booting priority.

4.4 – Advanced Chipsets Features

In Advanced Chipset Features, you will be able to adjust many of the chipset special features.

Phoenix – AwardBIOS CMOS Setup Utility
Advanced Chipset Features

System BIOS Cacheable	[Enabled]	Item Help
Memory Hole At 15M-16M	[Disabled]	_____
＊＊VGA Setting＊＊		Menu Level ►
PEG/Onchip VGA Control	[Auto]	
On-Chip Frame Buffer Size	[8MB]	
DVMT Mode	[DVMT]	
DVMT/FIXED Memory Size	[128mb]	

↑↓←→: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit
F1: General Help
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

System BIOS Cacheable:
Selecting Enabled allows caching of the system BIOS ROM at F0000h-FFFFFh, resulting in better system performance. However, if any program writes to this memory area, a system error may result.
Enabled / Disabled

Memory Hole:
Reserve 15-16M Memory for ISA use.
Enabled / Disabled

PEG/Onchip VGA Control:
This option allows the BIOS to check to see if a PCI Express graphics card is installed. If it detects that a PCI Express graphics card is present, the motherboard boots up using that card. Otherwise, it defaults to the onboard graphics processor
Auto / PEG Port / Onchip VGA

On-Chip Frame Buffer Size:
This BIOS feature controls the amount of system memory that is allocated to the integrated graphics
1MB / 8MB

DVMT Mode:
It allows you to select the DVMT operating mode.
FIXED / DVMT

DVMT/FIXED Memory Size:
When set to DVMT Mode, the graphics chip will dynamically allocate system memory as graphics memory
128MB / 256MB / MAX

4.5 – Integrated Peripherals

Options related to onboard peripheral features can be altered through the following:

Phoenix – AwardBIOS CMOS Setup Utility
Integrated Peripherals

►OnChip IDE Device	[Press Enter]	Item Help
►Onboard Device	[Press Enter]	
►SuperIO Device	[Press Enter]	
Watch Dog Timer Select	[Disabled]	
LCM Module Support	[Enabled]	Menu Level ►
►USB Device Setting	[Press Enter]	

↑↓←→: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit
F1: General Help
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

Watch Dog Timer Select:
This BIOS feature controls the operation of the chipset's Watchdog Timer.
Dsabled / 1 Min / 2 Min / 4 Min / 8 Min / 15 Min / 30 Min / 1 Hour

LCM Module Support:

Disabled / Enabled

4.5.1 – OnChip IDE Device

Phoenix – AwardBIOS CMOS Setup Utility
OnChip IDE Device

IDE HDD Block Mode	[Enabled]	Item Help
IDE DMA Transfer Access	[Enabled]	_____
IDE Primary Master PIO	[Auto]	___
IDE Primary Slave PIO	[Auto]	
IDE Primary Master UDMA	[Auto]	Menu Level ►►
IDE Primary Slave UDMA	[Auto]	
On-Chip Secondary PCI IDE	[Enabled]	If your IDE hard drive
IDE Secondary Master PIO	[Auto]	supports block mode select
IDE Secondary Slave PIO	[Auto]	Enabled for automatic
IDE Secondary Master UDMA	[Auto]	detection of the optional
IDE Secondary Slave UDMA	[Auto]	number of block read/writes per sector the drive can support

↑↓←→: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit
F1: General Help
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

IDE HDD Block Mode:
Select Disabled or Enabled IDE HDD Block Mode
Enabled / Disabled

IDE DMA Transfer Access:
Select Enabled to run the HDD's DMA function
Enabled / Disabled

Primary / Secondary Master/ Slave PIO:
The four IDE PIO (Programmed Input / Output) field let you set a PIO mode (0-4) for each of the four IDE devices that the onboard IDE interface supports. Modes 0 through 4 provide successively increased performance. In Auto mode, the system automatically determines the best mode for each device.
Auto / Mode 0 / Mode 1 / Mode 2 / Mode 3 / Mode 4

Primary / Secondary Master/ Slave UDMA:
This allows you to select the mode of operation for the Ultra DMA/33 implementation is possible only if your IDE hard drive supports it and the

operating environment includes a DMA driver (Windows 95 OSR2 or a third-party IDE bus master driver). If your hard drive and your system software both support Ultra DMA/33, select Auto to enable bios SUPPORT.

Auto / Disabled

On-Chip Secondary PCI IDE:

IDE hard drive controllers can support up to two separate hard drives. These drives have a master/slave relationship that is determined by the cabling configuration used to attach them to the controller.

PIO means Programmed Input/Output. Rather than have the BIOS issue a series of commands to affect a transfer to or from the disk drive, PIO allows the BIOS to tell the controller what it wants and then let the controller and the CPU perform the complete task by itself. This is simpler and more efficient (and faster).

Your system includes a secondary built-in IDE controller, which operates on the PCI bus.

Enabled / Disabled

4.5.2 – Phoenix – AwardBIOS CMOS Setup Utility

Onboard Device

LAN1 82573V Ctrl [Enabled] LAN2 82573V Ctrl [Enabled]	Item Help Menu Level ►►
↑↓←→: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults	

LAN1 82573V Ctrl:

This enables/disables the on board 82573V LAN1 controller. The default is Enabled, which determines whether to enable or disable this chip.

Disabled / Enabled

LAN2 82573V Ctrl:

This enables/disables the on board 82573V LAN1 controller. The default is Enabled, which determines whether to enable or disable this chip.

Disabled / Enabled

		Item Help
USB 1.0 Controller	[Enabled]	
USB 2.0 Controller	[Enabled]	
USB Operation Mode	[High Speed]	
USB Keyboard Function	[Enabled]	Menu Level ►►
USB Mouse Function	[Enabled]	
USB Storage Function	[Enabled]	
* USB Mass Storage Device Boot Setting *		

↑↓←→: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit
F1: General Help
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

USB Controller:
This option enables or disables IRQ allocation for the USB (Universal Serial Bus) controller. Enable this if you are using a USB device. If you disable this while using a USB device, you may have problems running that device. However, if you don't use any USB devices, set the option to Disabled. It will free up an IRQ for other devices to use.

Enabled / Disabled

Note

This option is for the older USB 1.0 specification

USB 2.0 Controller:
This option enables or disables IRQ allocation for the USB 2 (Universal Serial Bus - Specification 2.0) controller. Enable this if you are using a USB 2 device. If you disable this while using a USB 2 device, you may have problems running that device. However, if you don't use any USB 2 devices, set the option to Disabled. It will free up an IRQ for other devices to use.

Enabled / Disabled

Note

USB 2.0 has a throughput of 480 Mbps (40 times faster than USB 1.0) and is fully backward compatible with USB 1.0.

USB Operation Mode:

Auto decide USB device operation mode.

Full/Low Speed / High Speed

USB Keyboard Support:
Select "Enabled" if your system contains a USB controller and you have a USB keyboard.

Enabled / Disabled

USB Mouse Support:
Set this option to be enabled if your system has a USB controller (including USB 2.0) and a USB mouse.

Enabled / Disabled

4.5.3 – Super IO Device

Phoenix – AwardBIOS CMOS Setup Utility
Super IO Device

Wake UP FROM S3	[BUTTON ONLY]	Item Help
Onboard FDC Controller	[Enabled]	_____
Onboard Serial Port 1	[3F8 / IRQ4]	_____
		Menu Level ►►

↑↓←→: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit
F1: General Help
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

Press Power Button key to resume from S3 state.

Wake UP FROM S3:
This option defines how the system can be woken from sleep mode.

Button only / Keyboard +BTN / KB +Mouse +BTN / Mouse +BTN

Onboard FDC Controller:
Select Enabled if your system has a floppy disk controller (FDC) installed on the system board and you wish to use it. If you install and-in FDC or the system has no floppy drive, select "Disabled" in the field.

Enabled / Disabled

Onboard Serial Port 1:
Select an address and corresponding interrupt for the first and second serial ports.

3F8/IRQ4 / 2E8/IRQ3 / 3E8/IRQ4 / 2F8/IRQ3 / Disabled / Auto

4.6 – Power Management Setup

Options related to power management can be altered through the following:

Phoenix – AwardBIOS CMOS Setup Utility
Power Management Setup

ACPI Function	[Enabled]	Item Help
Run VGABIOS if S3 Resume	[Auto]	
Power Management	[User Define]	
Video Off Method	[DPMS]	
Video Off In Suspend	[Yes]	Menu Level ►
Suspend Type	[Stop Grant]	
MODEM Use IRQ	[3]	
Suspend Mode	[Disabled]	
HDD Power Down	[Disabled]	
Soft-Off by PWR-BTTN	[Instant-Off]	
Intruder# Detection	[Disabled]	
PWRON After PWR-Fail	[Former Sts]	
Wake-Up by PCI card	[Enabled]	
Power On by Ring	[Disabled]	
USB KB Wake-Up From S3	[Disabled]	
Resume by Alarm	[Disabled]	
X Date (of month) Alarm	0	
X Time (hh:mm:ss) Alarm	0 : 0 : 0	

↑↓←→: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit
F1: General Help
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

ACPI Function:
Toggles advanced power and configuration done by OS.
Enabled / Disabled

Run VGABOIS if S3 Resume:
Defines the type used to run VGABOIS if S3 Resume.
Auto / Yes / No

Power Management:
This function allows you to set the default parameters of power-saving modes. Set this to User Define to choose your own parameters. The following table shows the parameters for Maximum Saving and Minimum Saving options for the various modes:

Mode	Doze	Standby	Suspend	HDD Power Down
Min Saving	1 hour	1 hour	1 hour	15 min
Max Saving	1 min	1 min	1 min	1 min

Min Saving / Max Saving / User Define

Video Off Method:
Defines the method used to power off graphics.
V/H SYNC+Blank / Blank / DPMS

Video Off in Suspend:
This option defines the time frame in which the video will be disabled under current power management settings. The settings are:
No : System BIOS will never turn off the screen.
Yes: System BIOS turns of the screen when system is in SUSPEND mode.

Suspend Type:
This option defines the system suspend type. The two suspend types are:
Power on Suspend: If this is selected, the CPU will enter into Doze mode.
Stop Grant: When selected, the CPU clock will enter Sleep mode.
In both of these modes, the system activities are detected by monitoring the IRQ signals or I/O

MODEM Use IRQ:
Name the interrupt request (IRQ) line assigned to the modem (if any) on your system. Activity of the selected IRQ always awakens the system.
NA / 3 / 4 / 5 / 7 / 9 / 10 / 11

Suspend Mode:
Defines the method used to power off the system.
Disabled / 1 Min / 2 Min / 4 Min / 6 Min / 8 Min / 10 Min / 20 Min / 30Min / 40Min / 1 Hour

HDD Power Down:
Defines hard drive power down delay.
Disabled / 1 min-15 min

Soft-Off by PWRBTTN:
Defines the mode of the Soft-Off by PWRBTTN.
Delay 4 Sec / Instant-Off

Intruder# Detection:
This feature is used to enable/disable the function: when chassis open event is detected, BIOS will record the event.

Disabled/ Enabled

PWRON After PWR-Fail:
When the system is shut down owing to the power failure, the system will not be back to power on by itself. This feature allows you to set the system back to which power status of the system when the system power is resumed.

On / Off / Former-Sts

Wake-Up by PCI card:
When set at Enabled, any PCI-PM event awakes the system from a PCI-PM controlled state. The options are Disabled, Enabled.

Enabled / Disabled

Power On by Ring:
An incoming call via modem awakes the system from its soft-off mode.

Enabled / Disabled

USB KB Wake-Up from S3:
When set at Disabled, it doesn't allow USB keyboard to activate the system from ACPI S3 power saving mode.

Enabled / Disabled

Resume by Alarm:
This feature allows you to set the when the system being turned on from the system power-off status.

Enabled / Disabled

4.7 – PnP/PCI Configurations

Options related to all the configurations of PnP / PCI resources.

Phoenix – AwardBIOS CMOS Setup Utility
PnP / PCI Configurations

Init Display First	[PCI Slot]	Item Help
Reset Configuration Data	[Disabled]	
Resources Controlled By	[Auto (ESCD)]	
X IRQ Resources	Press Enter	Menu Level ►
PCI / VGA Palette Snoop	[Disabled]	
INT Pin 1 Assignment	[Auto]	
INT Pin 2 Assignment	[Auto]	
INT Pin 3 Assignment	[Auto]	
INT Pin 4 Assignment	[Auto]	
INT Pin 5 Assignment	[Auto]	
INT Pin 6 Assignment	[Auto]	
INT Pin 7 Assignment	[Auto]	
INT Pin 8 Assignment	[Auto]	
＊＊PCI Express Relative Items ＊＊		
Maximum Payload Size [128]		

↑↓←→: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit
F1: General Help
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

Init Display First:
This item selects which display card init first.
PCI Slot / Onboard

Reset Configuration Data:
This setting allows you to clear ESCD data.
Enabled / Disabled

Resources Controlled By:
Default whether system resources are controller by BIOS or by user.
Manual / Auto (ESCD)

PCI / VGA Palette Snoop:
Leave as default.
Enabled / Disabled

IRQ Resources:
Press Enter

INT Pin 1/2/3/4/5/6/7/8 Assignment:
This feature allows you to assign the PCI IRQ numbers for PCI slots. Selecting the default, Auto, allows the PCI controller to automatically allocate the IRQ numbers.

Auto / 3 / 4 / 5 / 7 / 9 / 10 / 11 / 12 / 14 / 15

Maximum Payload Size [128]:

This setting defines the maximum payload size.

128 / 256 / 512 / 1024 / 2048 / 4096

This controls the maximum amount of data that can be transferred in a packet. Larger payload sizes increase data throughput, but increase the time that an application must wait for data to begin being transferred.

4.8 – PC Health Status

This menu is related to detecting system temperature, voltage, fan and speed.

Phoenix – AwardBIOS CMOS Setup Utility
PC Health Status

►Fan control	[Press Enter]	Item Help
CPU Temperature		
CPU Tcase/thermal diode	30℃	
MCH Temperature	37℃	Menu Level ►
Vccp	1.33V	
V5SB	5.38V	
12V	12.27V	
5V	5.38V	
System FAN1	10131RPM	
System FAN2	6976RPM	
System FAN3	4530RPM	
System FAN4	5726RPM	
System FAN5	5572RPM	

↑↓←→: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

Note: The onboard SMSC SCH5027 hardware monitoring ASIC automatically detects the system, motherboard and CPU temperature. The hardware monitor ASIC also detects the voltage output through the voltage regulators.

4.8.1 – AutoFAN Control

AutoFan ctrl	[Enabled]	Item Help
CPU Select	[Conroe/Cedar Mill]	
Duty Cycle/System/	[10%]	Menu Level ►
Duty Cycle/CPU/	[15%]	
↑↓←→: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults		

AutoFan Control:

This feature is used to set function of Auto Mode Fan Control.

Enabled / Disabled

4.9 – Frequency/Voltage Control

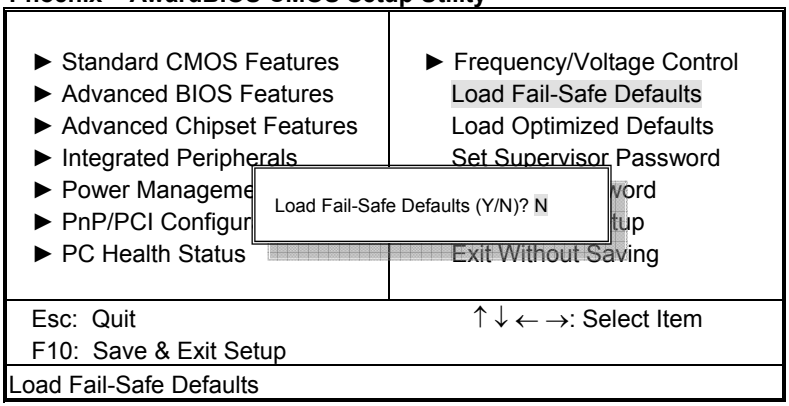
This section facilitates controlling the CPU clock and frequency ratio.

CPU Clock Ratio [7X]	Item Help Menu Level ►
↑↓←→: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults	

CPU Clock Ratio:
The CPU clock ratio setting defines how fast the CPU clock runs relative to the bus speed. TYAN **does not recommend** changing this setting from the default setting. Min=6, Max=7.The default is **7x**.

4.10 – Load Fail-Safe Defaults

Phoenix – AwardBIOS CMOS Setup Utility



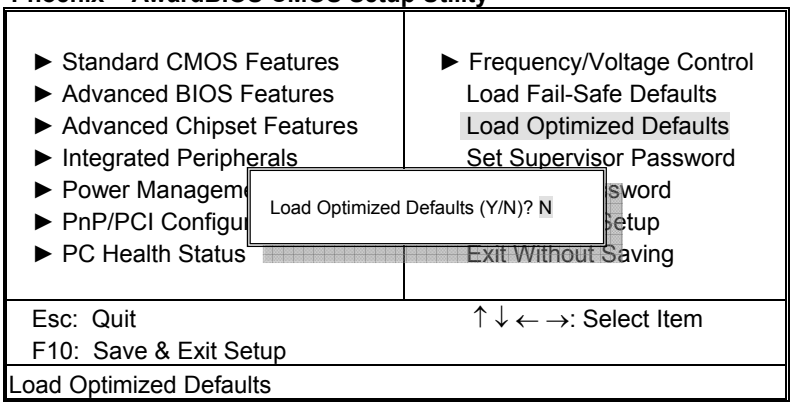
When you press <Enter> on this item you get a confirmation dialog box with a message similar to:

Load Fail-Safe Defaults (Y/N)? N

Pressing 'Y' loads the BIOS default values for the most stable, minimal-performance system operations.

4.11 – Load Optimized Defaults

Phoenix – AwardBIOS CMOS Setup Utility



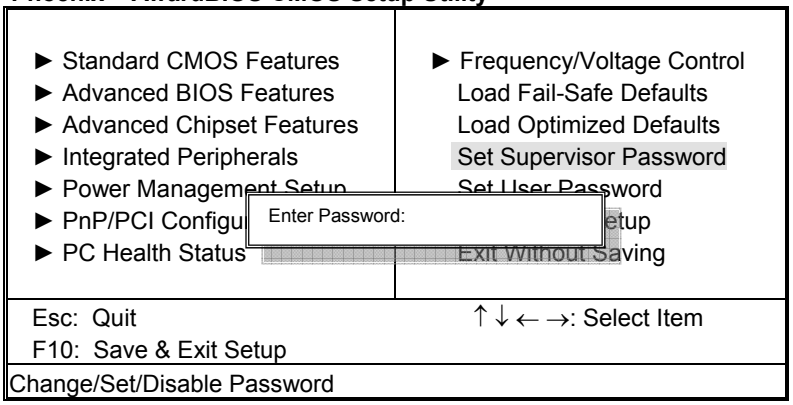
When you press <Enter> on this item you get a confirmation dialog box with a message similar to:

Load Optimized Defaults (Y/N)? N

Pressing 'Y' loads the default values that are factory settings for optimal performance system operations.

4.12 – Supervisor/User Password Setting

Phoenix – AwardBIOS CMOS Setup Utility

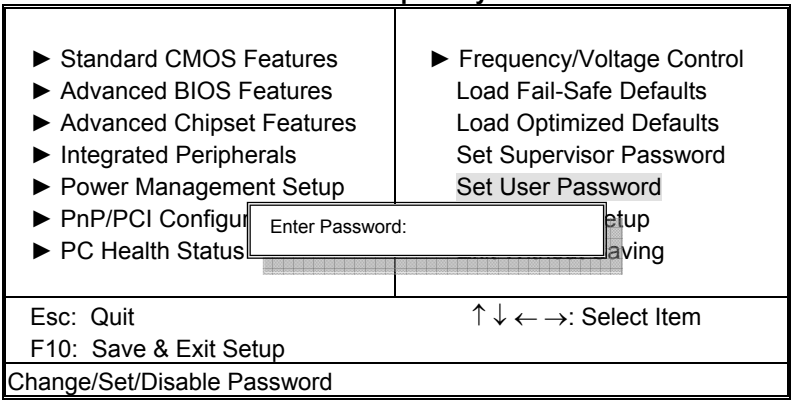


You can set either a supervisor or a user password, or both of them. The differences are:

Set Supervisor Password: Can enter and change the options of the setup menus.

Set User Password: Can enter but does not have permission to change any options.
When you select this function, the following message will appear at the center of the screen to assist you in creating a password.
ENTER PASSWORD:

Phoenix – AwardBIOS CMOS Setup Utility



Type the password, up to eight characters in length, and press <Enter>. The password typed now will clear any previously entered password from CMOS memory. You will be asked to confirm the password. Type the password again and press <Enter>. You may also press <Esc> to abort the selection and not enter a password.

To disable a password, just press <Enter> when you are prompted to enter the password. A message will confirm the password will be disabled. Once the password is disabled, the system will boot and you can enter Setup freely.

PASSWORD DISABLED.

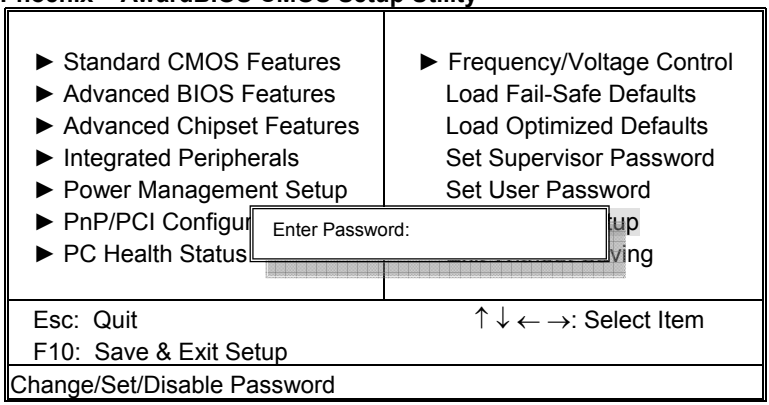
When a password has been enabled, you will be prompted to enter it every time you try to enter Setup. This prevents an unauthorized person from changing any part of your system configuration.

Additionally, when a password is enabled, you can also require the BIOS to request a password every time your system is rebooted. This would prevent unauthorized use of your computer.

You determine when the password is required within the BIOS Features Setup Menu and its Security option (see Section 3). If the Security option is set to “System”, the password will be required both at boot and at entry to Setup. If set to “Setup”, prompting only occurs when trying to enter Setup.

4.13 – Exit Selecting

Phoenix – AwardBIOS CMOS Setup Utility



Save & Exit Setup

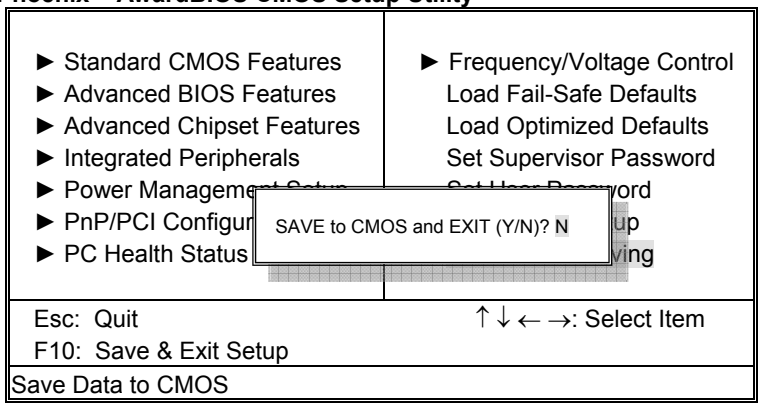
Pressing <Enter> on this item asks for confirmation:

Save to CMOS and EXIT (Y/N)? Y

Pressing "Y" stores the selections made in the menus in CMOS – a special section of memory that stays on after you turn your system off. The next time you boot your computer, the BIOS configures your system according to the Setup selections stored in CMOS. After saving the values the system is restarted again.

Exit Without Saving

Phoenix – AwardBIOS CMOS Setup Utility



Pressing <Enter> on this item asks for confirmation:

Quit without saving (Y/N)? Y

This allows you to exit Setup without storing in CMOS any change. The previous selections remain in effect. This exits the Setup utility and restarts your computer.

Appendix I: Cable Connection Tables

SATA Cables

Table 1: GT14 B5180 HDD to Motherboard

HDD	Connect to	Motherboard
HDD 1	→	SATA 1
HDD 2	→	SATA 2
HDD 3	→	SATA 3

FAN Cables

Table 2: System Fan to Motherboard

HDD	Connect to	Motherboard
Fan 1	→	JP23
Fan 2	→	J103
Fan 3	→	
Fan 4	→	J102
Fan 5	→	

Power Supply Cables

Table 3: Power Supply to Motherboard

Power Supply	Connect to	Motherboard
P1 24-pin power supply	→	PW1 24-pin connector
P2 8-pin power supply	→	PW2 8-pin connector

Other Cables

Table 4: M1017 Front Panel LED Board Related Cable

M1017	to	Motherboard
M1017 LED Connector	→	JP16 Connector
		J101 Connector

Table 5: USB Board Related Cable

USB Board	→	Motherboard
USB 2 x 5 pin header	→	JP13 Connector

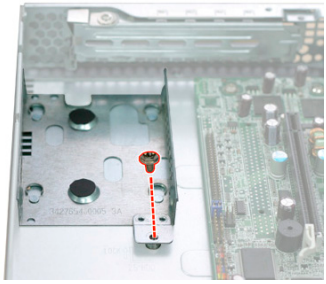
Table 6: LCD Module Related Cable

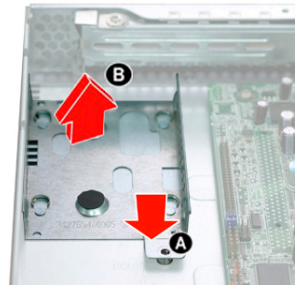
LCD Module	→	Motherboard
LCM 2 x 3 pin header	→	J100 Connector

Appendix II: Installing the SMDC Card

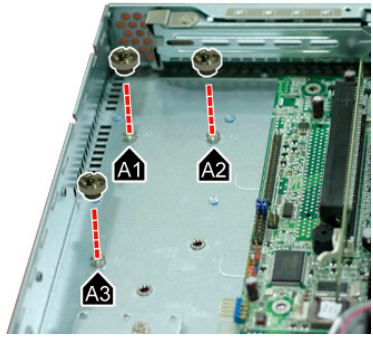
Follow these steps to install M3291 SMDC card onto the 2.5” HDD location on your GT14 chassis.

1. Remove the screw securing the 2.5” hard disk drive bracket in the GT14 chassis. Then slide the drive tray out (A) and lift the bracket out from the chassis (B).

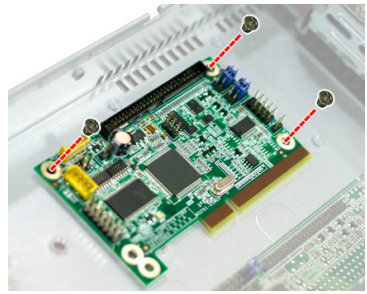




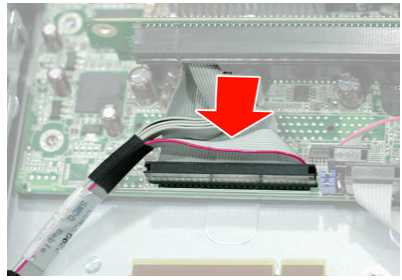
2. Secure the three flat screws to the screwholes indicated by “A1” “A2” “A3” in the GT14 chassis as shown.



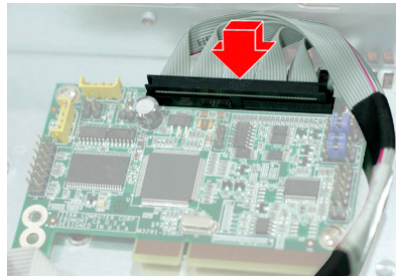
3. Align M3291 with the secured flat screws in step 2. Secure M3291 to the chassis with three screws.



4. Connect the 2 x 25 pin SMDC cable to M3291 as shown.



5. Connect the other end of SMDC cable to the SMDC connector (J30) on the motherboard.



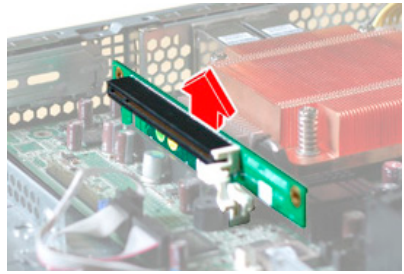
Cable Connection Table

SMDC Card (M3291)	to	Motherboard
J1 Connector	→	J30 SMDC Connector

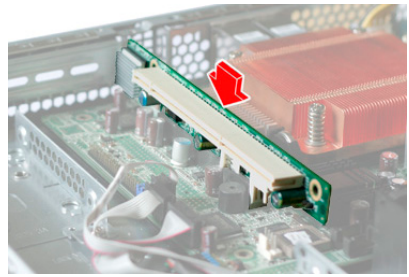
Appendix III: Installing the M2061 Riser Card

The following provides you with the information on installing the optional M2061 riser card into your GT14 chassis. You need to purchase the M2061 riser card.

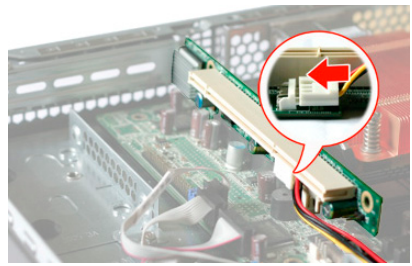
1. Remove the M2083 PCI-E riser card from the PCI-E riser card slot.



2. Insert the M2061 riser card to the PCI Express slot as shown.



3. Connect the small 4-pin connector of the power supply to the M2061 riser card as shown.

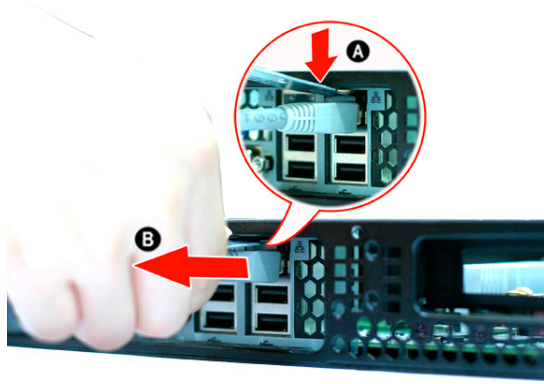


4. Refer to "**2.1.4 Installing the PCI-E Card**" to install PCI-X Card into the PCI-X riser card.

Appendix IV: Detaching LAN Cable

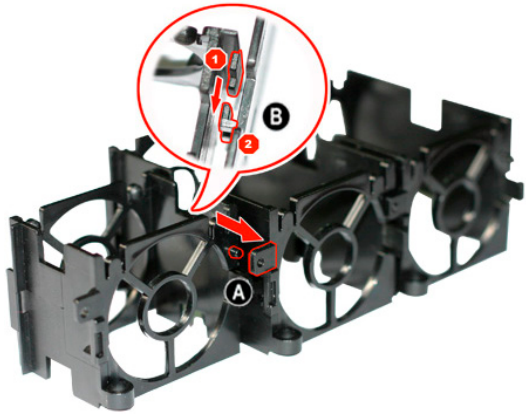
The following provides instructions on detaching LAN cable.

1. Refer to the first three steps in "**2.1.4 Installing the PCI-E Card**" to remove the I/O shield.
2. Use the I/O shield as the tool to press the tab on the LAN Cable (A), and draw out the LAN cable at the same time (B).

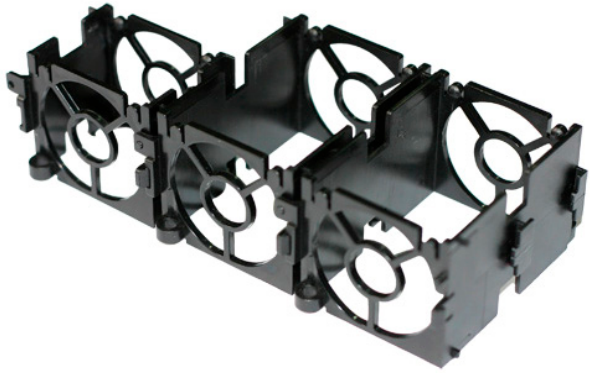


Appendix V: Assembling Fan Holders

The B5180 has totally three fan holders. Refer to the following illustration to assemble them when necessary.



NOTE: Make sure the tab fit into the hole of the other fan holder (A) and lock “1” into “2” (B).



Disassemble the fan holders following the above steps in reverse.

Technical Support

If a problem arises with your system, you should first turn to your dealer for direct support. Your system has most likely been configured or designed by them and they should have the best idea of what hardware and software your system contains. Hence, they should be of the most assistance for you. Furthermore, if you purchased your system from a dealer near you, take the system to them directly to have it serviced instead of attempting to do so yourself (which can have expensive consequence).

If these options are not available for you then TYAN Computer Corporation can help. Besides designing innovative and quality products for over a decade, TYAN has continuously offered customers service beyond their expectations. TYAN's website (www.tyan.com) provides easy-to-access resources such as in-depth Linux Online Support sections with downloadable Linux drivers and comprehensive compatibility reports for chassis, memory and much more. With all these convenient resources just a few keystrokes away, users can easily find their latest software and operating system components to keep their systems running as powerful and productive as possible. TYAN also ranks high for its commitment to fast and friendly customer support through email. By offering plenty of options for users, TYAN serves multiple market segments with the industry's most competitive services to support them.

"TYAN's tech support is some of the most impressive we've seen, with great response time and exceptional organization in general." — Anandtech.com

Please feel free to contact us directly for this service at **tech-support@tyan.com**

Help Resources:

1. See the beep codes section of this manual.

2. See the TYAN website for FAQ's, bulletins, driver updates, and other information: http://www.tyan.com

3. Contact your dealer for help BEFORE calling TYAN.

4. Check the TYAN user group:
   alt.comp.periphs.mainboard.TYAN

Returning Merchandise for Service
During the warranty period, contact your distributor or system vendor FIRST for any product problems. This warranty only covers normal customer use and does not cover damages incurred during shipping or failure due to the alteration, misuse, abuse, or improper maintenance of products.

NOTE: A receipt or copy of your invoice marked with the date of purchase is required before any warranty service can be rendered. You may obtain service by calling the manufacturer for a Return Merchandise Authorization (RMA) number. The RMA number should be prominently displayed on the outside of the shipping carton and the package should be mailed prepaid.
TYAN will pay to have the board shipped back to you.

TYAN Transport GT14-B5180 User's Manual v1.01

Document ID: D1899-100